Intermec

User's Manual

CK60 Mobile Computer with Windows Mobile

Intermec Technologies Corporation

Worldwide Headquarters
6001 36th Ave.W.
Everett, WA 98203
U.S.A.

www.intermec.com

The information contained herein is provided solely for the purpose of allowing customers to operate and service Intermec-manufactured equipment and is not to be released, reproduced, or used for any other purpose without written permission of Intermec Technologies Corporation.

Information and specifications contained in this document are subject to change without prior notice and do not represent a commitment on the part of Intermec Technologies Corporation.

© 2005-2006 by Intermec Technologies Corporation. All rights reserved.

The word Intermec, the Intermec logo, Norand, ArciTech, Beverage Routebook, CrossBar, dcBrowser, Duratherm, EasyADC, EasyCoder, EasySet, Fingerprint, i-gistics, INCA (under license), Intellitag, Intellitag Gen2, JANUS, LabelShop, MobileLAN, Picolink, Ready-to-Work, RoutePower, Sabre, ScanPlus, ShopScan, Smart Mobile Computing, TE 2000, Trakker Antares, and Vista Powered are either trademarks or registered trademarks of Intermec Technologies Corporation.

There are U.S. and foreign patents as well as U.S. and foreign patent applications pending.

Wi-Fi is a registered certification mark of the Wi-Fi Alliance.

Microsoft, Windows, and the Windows logo are registered trademarks of Microsoft Corporation in the United States and/or other countries.

Bluetooth is a trademark of Bluetooth SIG, Inc., U.S.A.

This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (**www.openssl.org**).

This product includes cryptographic software written by Eric Young (EAY@cryptsoft.com).

This product uses Regex++, Index software during its operational phases. The owner of Regex++ has granted use of the software to anyone provided such use is accompanied by the following copyright and permission notice:

Regex++, Index. (Version 3.31, 16th Dec 2001)
Copyright © 1998-2001 Dr John Maddock
Permission to use, copy, modify, distribute and sell this software and its documentation for any purpose is hereby granted without fee, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation. Dr John Maddock makes no representations about the suitability of this software for any purpose. It is provided "as is" without express or implied warranty.

Document Change Record

This page records changes to this document. The document was originally released as version 001.

Version Number	Date	Description of Change
002	12/2006	Added more troubleshooting information, RoHS model numbers, refined the installation procedure, and updated 802.11 information to include the "A" functionality.

Contents

Before You Begin xi
Safety Information xi
Global Services and Support xi
Who Should Read This Manual xii
Related Documents xii
Patent Information xiii

1 Using the Computer 1

Introducing the CK60 Mobile Computer 2

Learning Software Build Versions 3

Resetting Your Computer 3
Preferred Reset Method 3
Secondary Reset Method 4
Performing a Clean Boot 4

Scanning Bar Codes 5
Reading Distances 5
Scanning with the 2D Area Imager 9
Intermec Settings 10
Supported Devices 11

Using the Ambient Light Sensor 11

Using the Battery 11
Changing and Installing the Battery 12
Maximizing Battery Life 13
Checking the Battery Status Via LED 13
Checking the Battery Status Using the Power Applet 14

Adjusting the Beeper 14

Using the Intermec Settings Applet 15

Using the Keypad 16
32-Key Large Numeric Keypad 16
58-Key Full Alphanumeric Keypad 16
Using the Color-Coded Keys 17
Capitalizing All Characters 17
Using the Power Key 17
Turning on the Keypad Backlight 18

Using the Screen 18

Using the Secure Digital Card 19

Using Software Tools 19
SmartSystems Foundation Console (www.intermec.com/SmartSystems) 19
SmartSystems Platform Bundles (SSPB) 20
Intermec Resource Kits (www.intermec.com/IDL) 20

Using the Speakers 20

Using the Status Lights 22

Using the Stylus 22

Setting the Vibrate Mode 22
Setting the CK60 to Vibrate Using the Volume Control 22
Setting the Vibrate Mode Using Intermec Settings 23
Setting the Vibrate Mode Using Sounds & Notifications 24

Physical and Environmental Specifications 24

Accessories for the CK60 26

2 Windows Mobile 29

Software Builds 30

Where to Find Information 30

Basic Skills 30
Today Screen 31
Programs 31
Navigation Bar and Command Bar 32
Pop-up Menus 32
Notifications 33
Entering Information 33
Typing With the Onscreen Keyboard 34
Using Block Recognizer 35
Using Letter Recognizer 36
Using Transcriber 36
Selecting Typed Text 36
Writing on the Screen 36
Selecting the Writing 37
Converting Writing to Text 37
Drawing on the Screen 39
Recording a Message 40
Using My Text 40
Finding and Organizing Information 41
Customizing Your CK60 41

Microsoft ActiveSync 45

Microsoft Pocket Outlook 47
Calendar: Scheduling Appointments and Meetings. 47
Synchronizing Calendar. 48
Why Use Categories in the Calendar? 48
What's an All Day Event? 49
What's a Recurrence Pattern? 49
Viewing Appointments 50
Creating or Changing an Appointment 50
Adding a Note to an Appointment 52
Sending a Meeting Request 54
Changing Calendar Options 56
Contacts: Tracking Friends and Colleagues 56
Synchronizing Contacts. 57
Viewing Contacts 58
Adding a Note to a Contact. 59
Finding a Contact 60
Tasks: Keeping a To Do List 61
Notes: Capturing Thoughts and Ideas 63
Messaging: Sending and Receiving E-mail Messages. 64
Synchronizing E-mail Messages 65
Managing E-mail Messages and Folders. 65
Connecting to a Mail Server 66
Composing and Sending Messages 67

Companion Programs 68
Word Mobile 68
Creating a Document 68
Typing Mode 69
Writing Mode 70
Synchronizing Word Mobile Documents 70
Excel Mobile. 71
Creating a Workbook 71
Tips for Working in Excel Mobile. 72
PowerPoint Mobile. 72
Windows Media 74

Internet Explorer Mobile 74
Mobile Favorites. 74
Favorite Links. 74
Mobile Favorites. 75
Using Internet Explorer Mobile 76

3 Configuring the Computer. 79

Developing Applications for the Computer 80

Packaging Applications for the Computer 80

Installing Applications on the Computer 81
Using Microsoft ActiveSync 82
Using a Storage Card 83
Using Wavelink Avalanche 83
Using the SmartSystems Console 84

Launching Your Application Automatically 84
PreShell 85
PostShell 85
RunAutoRun 85
AutoExec 86
AutoRun 88
AutoCopy 88
AutoReg 89
AutoCab 89

Customizing How Applications Load on the CK60 91

Configuring CK60 Parameters 92
Configuring with the Setup Assistant 92
Configuring the Computer With Intermec Settings 92
Synchronizing the Computer System Time with a Time Server 93
Configuring the Computer through the Network 93
Configuring the Computer in a TCP/IP Direct Connect Network 93
Configuring the Computer in a UDP Plus Network 94

Reprogramming the CK60 Keypad 95
Implementation 95
Registry Entries 96
Programming the Keypad 96
Alphanumeric Scan Codes 97
Numeric Scan Codes 97

Configuring the SF51 Cordless Scanner 98
Imager Settings 98
Enabling Bluetooth 98
Creating an SF51 Connection Label 99
Viewing SF51 Information from Your Computer 100

Using Configuration Parameters 101

4 Maintaining the Computer 103

Upgrading the Operating System on Your Computer 104
Using a Secure Digital Card to Upgrade the Computer 105
Upgrading Both Operating System and PSM Files 105
Upgrading the Operating System 106
Upgrading the PSM Files 106
Using the SmartSystems Console to Upgrade the Computer 107

Troubleshooting Your Computer 108

Cleaning the Scanner Window and Computer Screen 112

5 Network Support 113

Personal Area Networks 114
About the Application 114
Wireless Printing 118
Bluetooth Audio 121
Configuring Bluetooth Using Intermec Settings 124
Connecting with Bluetooth 124

Local Area Networks 128
Configuring Serial Communications 128
Configuring 802.11a/b/g Radio Communications 128
Configuring the Network Parameters for a TCP/IP Network 129
Configuring the Network Parameters for a UDP Plus Network. 129
Controlling the 802.11 Radio Usage 129
Configuring Ethernet Communications 130
AutoIP/DHCP 130

Wide Area Networks 131

Remote Access (Modems) 131
Connecting to an Internet Service Provider 132
Connecting to Work. 134
Creating a VPN Server Connection to Work 137
Ending a Connection 138

iConnect 139
Ethernet Communications 139
No Networking 140
Wireless 802.11b Communications 140
Testing Your Network Connections 141

Configuring Security 141
Choosing Between Microsoft and Funk Security 142
Configuring Funk Security 142
Configuring Microsoft Security 159
Loading Certificates 160
Wireless Network 161

SmartSystems™ Foundation 163

Index 165

Before You Begin

This section provides you with safety information, technical support information, and sources for additional product information.

Safety Information

Your safety is extremely important. Read and follow all warnings and cautions in this document before handling and operating Intermec equipment. You can be seriously injured, and equipment and data can be damaged if you do not follow the safety warnings and cautions.

This section explains how to identify and understand dangers, warnings, cautions, and notes that are in this document.

A warning alerts you of an operating procedure, practice, condition, or statement that must be strictly observed to avoid death or serious injury to the persons working on the equipment.

A caution alerts you to an operating procedure, practice, condition, or statement that must be strictly observed to prevent equipment damage or destruction, or corruption or loss of data.

Note: Notes either provide extra information about a topic or contain special instructions for handling a particular condition or set of circumstances.

Global Services and Support

Warranty Information

To understand the warranty for your Intermec product, visit the Intermec web site at **www.intermec.com** and click **Service & Support**. The Intermec Global Sales & Service page appears. From the Service & Support menu, move your pointer over **Support**, and then click **Warranty**.

Disclaimer of warranties: The sample code included in this document is presented for reference only. The code does not necessarily represent complete, tested programs. The code is provided "as is with all faults." All warranties are expressly disclaimed, including the implied warranties of merchantability and fitness for a particular purpose.

Web Support

Visit the Intermec web site at **www.intermec.com** to download our current manuals (in PDF). To order printed versions of the Intermec manuals, contact your local Intermec representative or distributor.

Visit the Intermec technical knowledge base (Knowledge Central) at **intermec.custhelp.com** to review technical information or to request technical support for your Intermec product.

Telephone Support

These services are available from Intermec Technologies Corporation.

Service	Description	In the U.S.A. and Canada, call 1-800-755-5505 and choose this option
Order Intermec products	• Place an order. • Ask about an existing order.	1 and then choose 2
Order Intermec media	Order printer labels and ribbons.	1 and then choose 1
Order spare parts	Order spare parts	1 or 2 and then choose 4
Technical Support	Talk to technical support about your Intermec product.	2 and then choose 2
Service	• Get a return authorization number for authorized service center repair. • Request an on-site repair technician.	2 and then choose 1
Service contracts	• Ask about an existing contract. • Renew a contract. • Inquire about repair billing or other service invoicing questions.	1 or 2 and then choose 3

Outside the U.S.A. and Canada, contact your local Intermec representative. To search for your local representative, from the Intermec web site, click **Contact**.

Who Should Read This Manual

This document is written for the person who is responsible for installing, configuring, and maintaining the CK60 Mobile Computer.

This document provides you with information about the features of the CK60, and how to install, configure, operate, maintain, and troubleshoot.

Before you work with the CK60, you should be familiar with your network and general networking terms, such as IP address.

Related Documents

This table contains a list of related Intermec documents and part numbers.

Document Title	Part Number
CK60 Mobile Computer Quick Start Guide	962-054-115
Intermec Computer Command Reference Manual	073529
TE 2000 Terminal Emulation Programmer's Guide	977-055-008

The Intermec web site at **www.intermec.com** contains our documents (as PDF files) that you can download for free.

To download documents

1. Visit the Intermec web site at **www.intermec.com**.
2. Click **Service & Support** > **Manuals**.
3. In the **Select a Product** field, choose the product whose documentation you want to download.

To order printed versions of the Intermec manuals, contact your local Intermec representative or distributor.

Patent Information

4,882,476; 4,894,523; 4,953,113; 4,961,043; 4,970,379; 4,988,852; 5,019,699; 5,021,642; 5,038,024; 5,081,343; 5,095,197; 5,144,119; 5,144,121; 5,182,441; 5,187,355; 5,187,356; 5,195,183; 5,195,183; 5,195,183; 5,216,233; 5,216,550; 5,218,191; 5,227,614; 5,233,172; 5,241,488; 5,243,602; 5,258,606; 5,278,487; 5,288,985; 5,308,966; 5,322,991; 5,331,136; 5,331,580; 5,342,210; 5,349,678; 5,359,185; 5,371,858; 5,373,478; 5,389,770; 5,397,885; 5,410,141; 5,414,251; 5,416,463; 5,442,167; 5,464,972; 5,468,947; 5,468,950; 5,477,044; 5,486,689; 5,488,575; 5,500,516; 5,502,297; 5,504,367; 5,508,599; 5,514,858; 5,530,619; 5,534,684; 5,536,924; 5,539,191; 5,541,419; 5,548,108; 5,550,362; 5,550,364; 5,565,669; 5,567,925; 5,568,645; 5,572,007; 5,576,529; 5,592,512; 5,594,230; 5,598,007; 5,608,578; 5,616,909; 5,619,027; 5,627,360; 5,640,001; 5,657,317; 5,659,431; 5,671,436; 5,672,860; 5,684,290; 5,719,678; 5,729,003; 5,742,041; 5,761,219; 5,764,798; 5,777,308; 5,777,309; 5,777,310; 5,786,583; 5,793,604; 5,798,509; 5,798,513; 5,804,805; 5,805,807; 5,811,776; 5,811,777; 5,818,027; 5,821,523; 5,828,052; 5,831,819; 5,834,749; 5,834,753; 5,837,987; 5,841,121; 5,842,070; 5,844,222; 5,854,478; 5,862,267; 5,869,840; 5,873,070; 5,877,486; 5,878,395; 5,883,492; 5,883,493; 5,886,338; 5,889,386; 5,895,906; 5,898,162; 5,902,987; 5,902,988; 5,912,452; 5,923,022; 5,936,224; 5,949,056; 5,969,321; 5,969,326; 5,969,328; 5,979,768; 5,986,435; 5,987,192; 5,992,750; 6,003,775; 6,012,640; 6,016,960; 6,018,597; 6,024,289; 6,034,379; 6,036,093; 6,039,252; 6,064,763; 6,075,340; 6,095,422; 6,097,839; 6,102,289; 6,102,295; 6,109,528; 6,119,941; 6,128,414; 6,138,915; 6,149,061; 6,149,063; 6,152,370; 6,155,490; 6,158,661; 6,164,542; 6,164,545; 6,173,893; 6,195,053; 6,234,393; 6,234,395; 6,244,512; 6,249,008; 6,328,214; 6,330,975; 6,345,765; 6,356,949; 6,367,699; 6,375,075; 6,375,076; 6,431,451; 6,435,411; 6,484,944; 6,488,209; 6,497,368; 6,532,152; 6,538,413; 6,539,422; 6,621,942; 6,641,046; 6,681,994; 6,687,403; 6,688,523; 6,732,930;
Des. 417445
There may other U.S. and foreign patents pending.

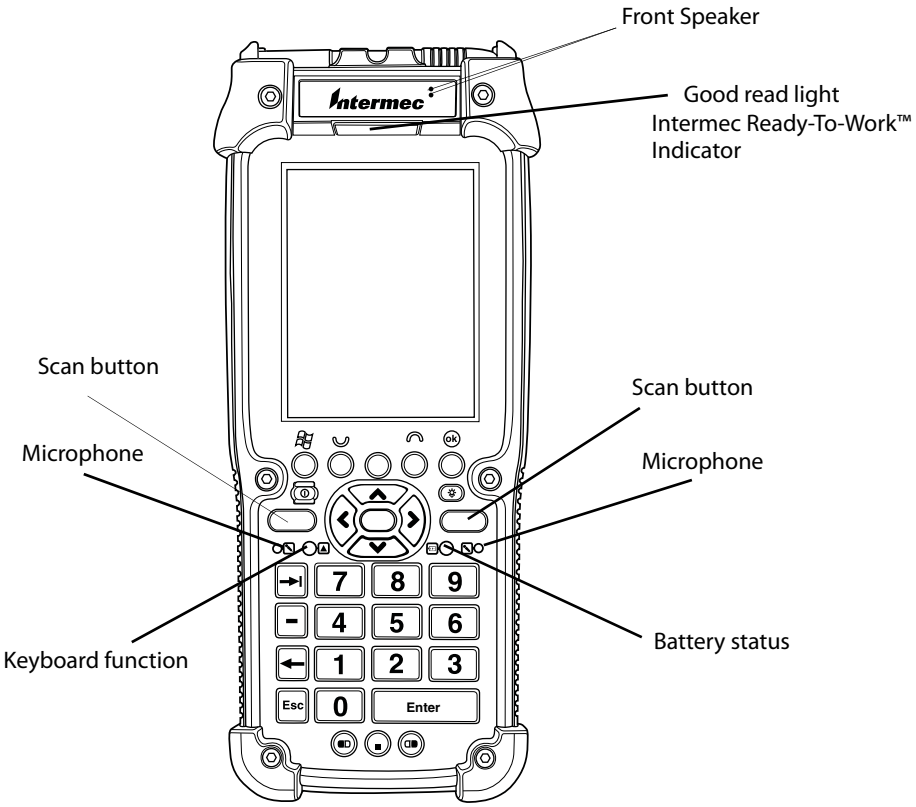
1 Using the Computer

This chapter introduces the CK60 Mobile Computer, developed by Intermec to enhance wireless connectivity needs and contains hardware and software configuration information to assist you in making the most out of your CK60.

Note: Desktop icons and settings applet icons are shown to the left. Any place that **Start** is mentioned, tap the following Windows icon in the top, left corner of your CK60 desktop.

Introducing the CK60 Mobile Computer

The Intermec CK60 Mobile Computer is an ergonomically designed mobile computer built on the Microsoft® Windows® Mobile 5.0 operating system. It is a lightweight, easy-to-use, reliable computer that runs client/server applications, terminal emulation applications, as well as browser-based applications.



The CK60 is available with the following:

- Ethernet
- 802.11a/b/g radio
- Bluetooth - *Bluetooth is a trademark owned by Bluetooth SIG, Inc., USA
- 64MB or 128MB RAM/64MB Flash Memory
- Disk on Chip (128MB)
- 2D Area Imagers
- EA10, EA11, EL10, EL11, and EV10 Imagers

Use this manual to understand how to use the features and options available on the CK60.

CK60s with an IEEE 802.11a/b/g radio installed are Wi-Fi® certified for interoperability with other 802.11a/b/g wireless LAN devices.

Learning Software Build Versions

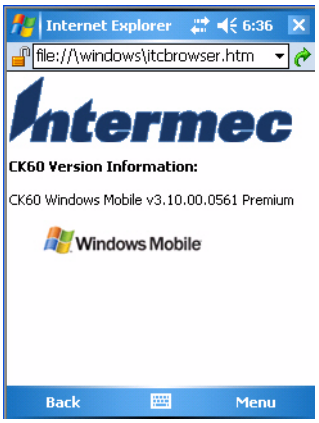
The Persistent Storage Manager (PSM) is an area of storage which is embedded in a section of the system's FLASH memory. This storage area is *not* erased when a cold-boot is performed. It may, however, erase during the reflashing process. In addition to storing applications and data files, you can store a persistent registry to the PSM region.

To learn the PSM build version or operating system version

1 Select **Start** > **Internet Explorer** > the following Intermec logo.

Intermec

2 Note the information beneath the **CK60 Version Information** title.



3 Tap the **Close** icon in the top right corner to exit the Internet Explorer.

Resetting Your Computer

You may need to reset your computer if:

- the CK60 completely stops responding.
- an application is locked up and stops responding.
- when you upgrade the firmware, or
- when you reflash the CK60.

Preferred Reset Method

This procedure is the recommended method in recovering the CK60. It performs a graceful system shutdown and no data is lost in the process.

To recover the CK60

- Press and hold the power switch on the front of the CK60 for about 10 seconds.

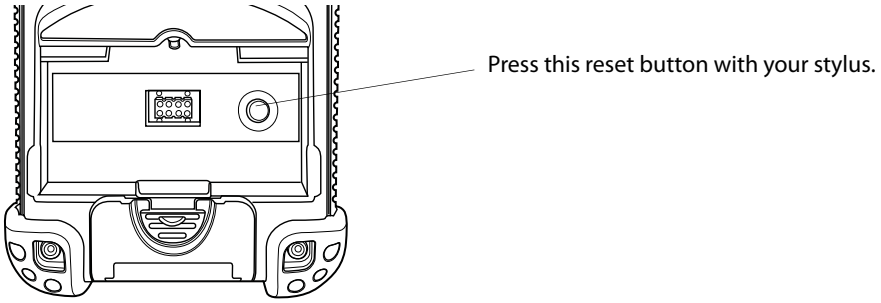
Secondary Reset Method

If performing the recommended reset method does not restore system operation, try using this method. It does not guarantee that cached disk data is saved, and as such, transactional data may be lost during the reset. All other data is preserved.

To press the reset button

1 Press the power switch to suspend the CK60, then remove the battery pack from the back of the CK60.

2 With a stylus, press the reset button in the battery cavity in the back.



Warning

Do not use force or a sharp object when pressing the reset button. You may damage the reset button.

3 Press and hold the power switch as you put the battery back in.

Performing a Clean Boot

If performing either reset method fails to restore system operation, you may have to perform a clean boot. This is a boot method which formats the object store to clean data and registry information from the CK60 system and restores them to their factory-default state.

Note: This will erase the memory in the CK60, including all applications and data files found in the object store (user store). See **"Packaging Applications for the Computer" on page 80** for more information.

To perform a clean-boot

1 Press the power switch to suspend the CK60.

2 Remove the battery pack from the back of the CK60.

3 With a stylus, press the reset button in the battery cavity in the back.

4 Press and hold the power switch as you put the battery back in the unit.

5 Continue to hold the power switch until a Warning message appears on the display.

6 Release the power switch, then read the message.

7 To continue with the clean-boot, press the right side button. To cancel the clean-boot, press the left side button.

Scanning Bar Codes

Do not look directly into the window area or at a reflection of the laser beam while the laser is scanning. Long-term exposure to the laser beam can damage your vision.

Use the scanner to scan and enter bar code data. The type of scanner you are using and the type of bar code you are decoding determines the way you scan the bar code. The CK60 supports the scanning of 2D images. Plus, if you are using an integrated handle or a tethered scanner, the way you scan bar codes is different.

When you unpack the CK60, the Code 39, UPC/EAN, and PDF417 (if supported) bar code symbologies are enabled.

If you are using bar code labels that are encoded in a different symbology, you need to enable the symbology on the computer. Use the Intermec Settings applet to enable and disable symbologies for your scanner. For help on using the Intermec Settings applet, see "Using the Intermec Settings Applet" on page 15.

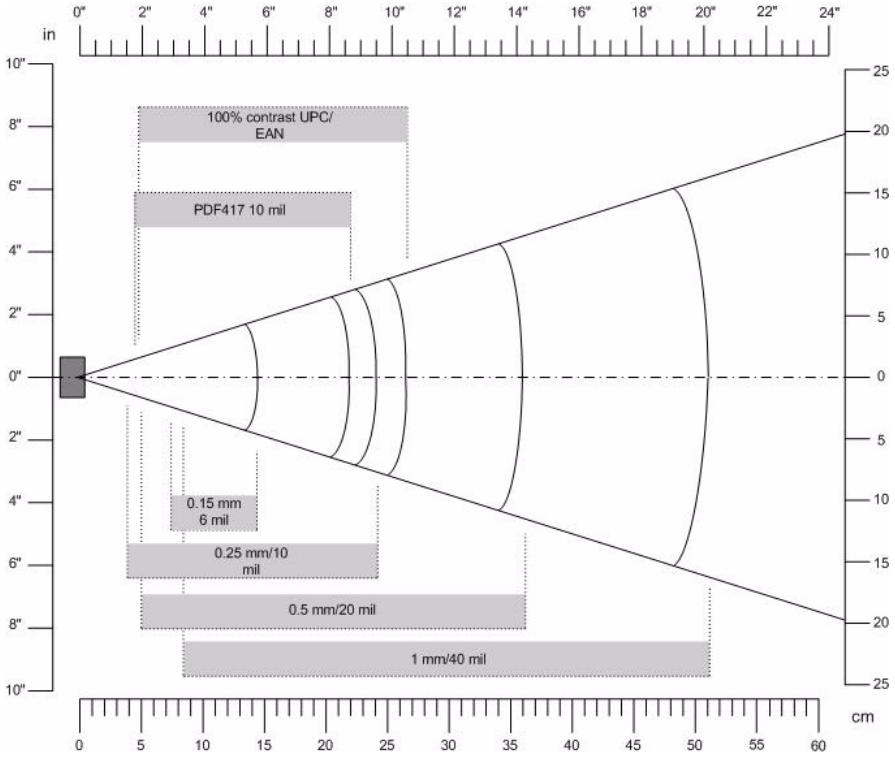
Reading Distances

Typical reading distances are done in an office environment using office lights (4 lux). Minimum distances are measured in the dark (0 lux). Both reading distances are provided in respective scan engine integration guides. Contact your Intermec representative for more information.

The minimum standard reading distances for CK60s built with integrated scan engines are shown on the next several pages. When correctly mounted, an exit window reduces reading distances by about 4% for all scan engines, with the exception of the EL10 with its reading distances reduced by 25%.

EA10 Minimum Reading Distances with 0.04" Setbacks

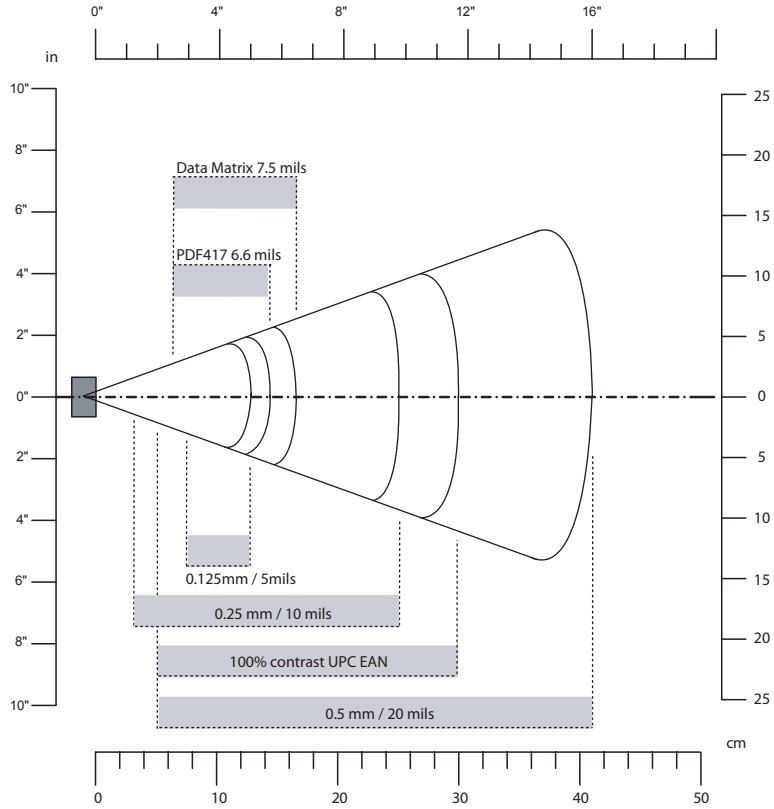
Symbology	Density	Minimum Distance	Maximum Distance
Code 39	0.125 mm/ 5 mil 0.15 mm/ 6 mil 0.20 mm/ 8 mil 0.25 mm/ 10 mil 0.30 mm/ 12 mil 0.50 mm/ 20 mil 1.00 mm/ 40 mil	8.03 cm/ 3.16" 7.39 cm/ 2.91" 5.49 cm/ 2.16" 3.96 cm/ 1.56" 3.71 cm/ 1.46" 4.98 cm/ 1.96" 3.71 cm/ 1.46"	11.84 cm/ 4.66" 14.38 cm/ 5.66" 19.46 cm/ 7.66" 24.03 cm/ 9.46" 25.81 cm/ 10.16" 35.97 cm/ 14.26" 50.95 cm/ 20.06"
UPC/EAN		4.98 cm/ 1.96"	29.97 cm/ 11.76"
PDF417	0.168 mm/ 6.6 mil 0.254 mm/ 10 mil 0.381 mm/ 15 mil	7.26 cm/ 2.86" 4.47 cm/ 1.76" 10.06 cm/ 3.96"	12.85 cm/ 5.06" 20.98 cm/ 8.26" 28.35 cm/ 11.16"
Data Matrix	0.254 mm/ 10 mil 0.381 mm/ 15 mil 0.508 mm/ 20 mil	6.50 cm/ 2.56" 5.99 cm/ 2.36" 4.98 cm/ 1.96"	17.93 cm/ 7.06" 27.84 cm/ 10.96" 32.92 cm/ 12.96"



EA11 Standard Minimum Reading Distances with 0.04" Setbacks

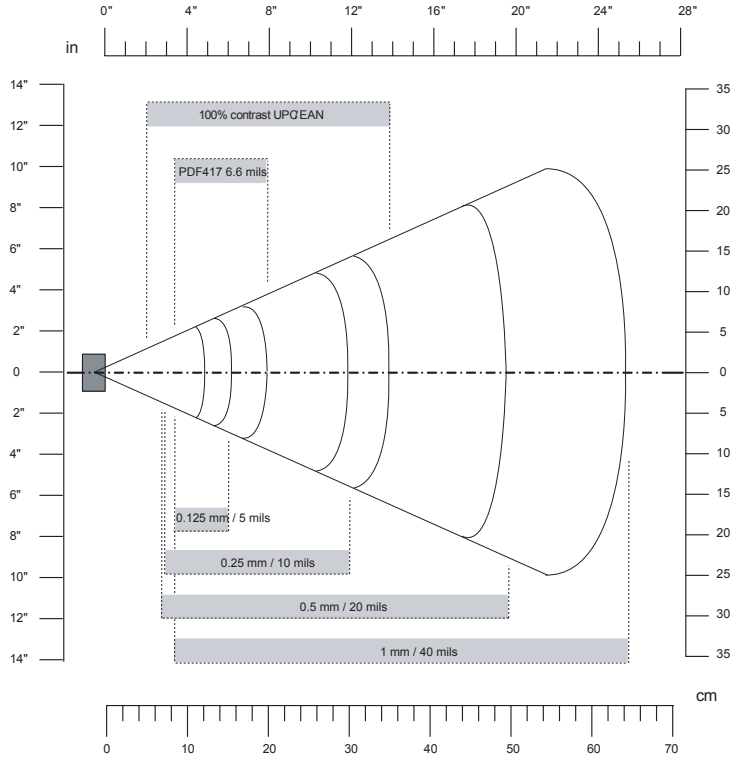
Symbology	Density	Minimum Distance	Maximum Distance
Code 39	0.125 mm/ 5 mil 0.20 mm/ 8 mil 0.25 mm/ 10 mil 0.50 mm/ 20 mil	7.26 cm/ 2.86" 3.96 cm/ 1.56" 3.45 cm/ 1.36" 4.98 cm/ 1.96"	12.09 cm/ 4.76" 20.98 cm/ 8.26" 25.04 cm/ 9.86" 40.28 cm/ 15.86"
UPC/EAN	0.33 mm/ 13 mil	4.98 cm/ 1.96"	29.92 cm/ 11.66"
Data Matrix	0.191 mm/ 7.5mil 0.254 mm/ 10 mil 0.381 mm/ 15 mil	3.71 cm/ 2.46" 5.98 cm/ 1.96" *	16.41 cm/ 6.46" 20.73 cm/ 8.16" 27.58 cm/ 10.86"
PDF417	0.168 mm/ 6.6 mil 0.254 mm/ 10 mil 0.381 mm/ 15 mil	6.25 cm/ 2.46" 4.47 cm/ 1.76" 4.98 cm/ 1.96"	13.87 cm/ 5.46" 21.74 cm/ 8.56" 33.43 cm/ 13.16"

* Minimum distance depends on symbology length and scan angle.



EL10 Minimum Guaranteed Reading Distances with 0.25" Setbacks

Symbology	Density	Minimum Distance	Maximum Distance
Code 39	0.1 mm/ 4mil	8.51 cm/ 3.35"	12.30 cm/ 4.45"
	0.125 mm/ 5mil	7.75 cm/ 3.05"	14.35 cm/ 5.65"
	0.25 mm/ 10 mil	6.99 cm/ 2.75"	29.34 cm/ 11.55"
	0.50 mm/ 20 mil	6.48 cm/ 2.55"	50.17 cm/ 19.75"
	1.00 mm/ 40 mil	7.75 cm/ 3.05"	63.37 cm/ 24.95"
UPC/EAN	0.33 mm/ 13 mil	5.46 cm/ 2.15"	34.42 cm/ 13.55"
PDF417	0.17 mm/ 6.6 mil	7.75 cm/ 3.05"	19.43 cm/ 7.65"

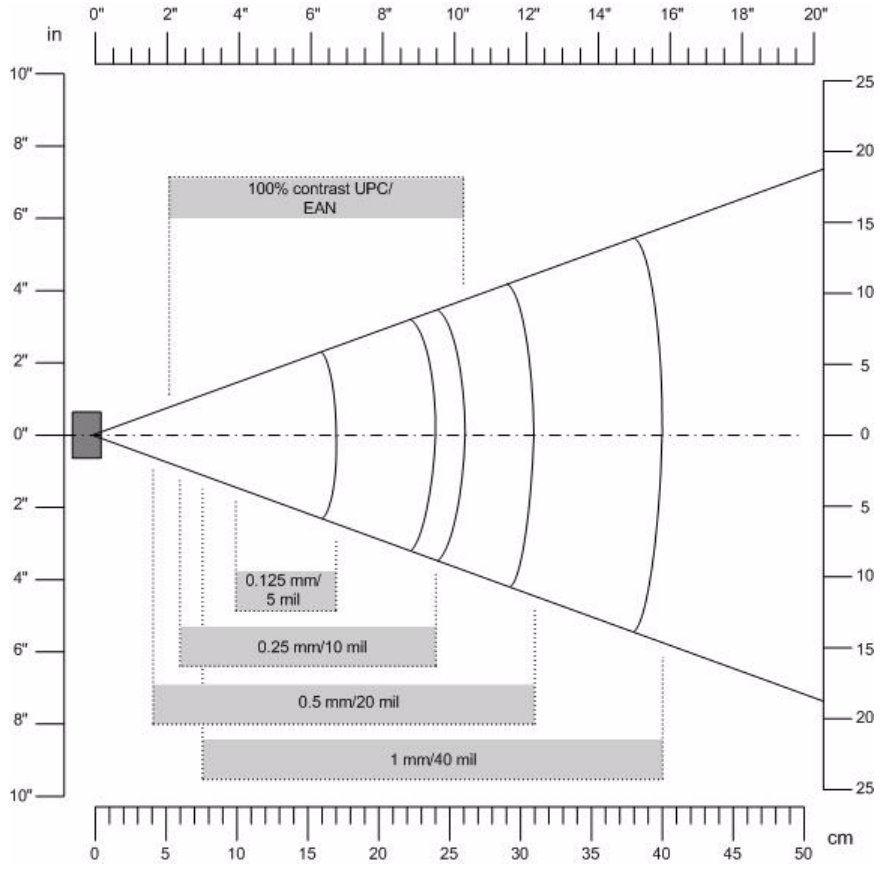


EL11 Minimum Reading Distances with 0.04" Setbacks

Symbology	Density	Minimum Distance	Maximum Distance
	0.1 mm/ 4 mil	8.79 cm/ 3.46"	11.84 cm/ 4.66"
	0.125 mm/ 5 mil	8.28 cm/ 3.26"	14.48 cm/ 5.86"
	0.33 mm/ 13 mil (EAN)	5.49 cm/ 2.16"	34.95 cm/ 13.76"
	1.00 mm/ 40 mil	9.55 cm/ 3.86"	63.91 cm/ 25.16"

EV10 Minimum Reading Distances with 0.04" Setbacks

Symbology	Bar Code Content	Density	Minimum Distances	Maximum Distances
Code 39	RESO 0.100 MM R 0.125 MM 0.25 .5 R1MM	0.1mm/ 4 mil 0.125 mm/ 5 mil 0.25 mm/ 10 mil 0.5 mm/ 20 mil 1 mm/ 40 mil	10.82 cm/ 4.26" 9.80 cm/ 3.86" 5.99 cm/ 2.36" 3.96 cm/ 1.56" 7.53 cm/ 2.96"	13.87 cm/ 5.46" 16.92 cm/ 6.66" 23.77 cm/ 9.36" 30.89 cm/ 12.16" 39.78 cm/ 15.66"
UPC/EAN	120010010100	0.33 mm/ 13 mil	4.98 cm/ 1.96"	25.81 cm/ 10.16"
PDF417	10 mil 15 mil	0.254 mm/ 10 mil 0.381 mm/ 15 mil	9.80 cm/ 3.86" 7.77 cm/ 3.06"	16.92 cm/ 6.66" 18.95 cm/ 7.46"



Scanning with the 2D Area Imager

The CK60 has the 2D area imager, which provides the ability to scan 2D bar code symbologies and supports omni-directional (360°) scanning where you can position the CK60 in any orientation to scan a bar code label. Using the 2D area imager is very similar to taking digital pictures.

To scan with the 2D area imager

1 Press the power switch to turn on the CK60.

2 Point the scanner window at the bar code label and hold the CK60 steady a few inches from the label.

3 Press the **Scan** button on the keypad or pull the trigger on a handle and center the red aiming beam over the bar code label.

The aiming beam is smaller when the imager is closer to the bar code and larger when it is further away.

When the CK60 successfully reads a bar code label, you hear a high beep and the green **Good Read** light turns on briefly.

4 Release the **Scan** button.

If you have problems scanning a bar code with the 2D imager, try following some of these tips to improve the performance of your imager:

- Set Lighting mode to Illum LED Priority.
- Keep your hand as steady as possible while scanning a label.
- Make sure that Aimer LED Duration is set to zero.
- Position the imager as close to the bar code as possible while still being able to capture the entire bar code.
- Enable only the bar codes that you need to use every day.

Below are the minimum reading distances for CK60s using the 2D area imager. When correctly mounted, an exit window reduces reading distances by about 4%.

2D Area Imager Reading Distances with 0.04" Setbacks

Symbology	Density	Near Distance	Far Distance
MaxiCode	35 mil	4.98 cm/ 1.96"	33.92 cm/ 12.96"
Data Matrix	15 mil	9.30 cm/ 3.66"	16.41 cm/ 6.46"
PDF417	10 mil 8 mil 6.6 mil	7.77 cm/ 3.06" 8.28 cm/ 3.26" 11.33 cm/ 4.46"	22.76 cm/ 8.96" 20.22 cm/ 7.96" 15.77 cm/ 6.21"
Code 39	15 mil 10 mil 8 mil	5.23 cm/ 2.06" 8.03 cm/ 3.26" 11.33 cm/ 4.46"	29.87 cm/ 11.76" 23.27 cm/ 9.16" 19.20 cm/ 7.56"
UPC	13 mil	6.25 cm/ 2.46"	31.65 cm/ 12.46"

Intermec Settings

Use Intermec Settings to configure these imager commands. For help using Intermec Settings, see **"Using the Intermec Settings Applet" on page 15**. For information on the commands and their parameters, see the *Intermec Computer Command Reference Manual* (P/N 073529), available from the Intermec web site at **www.intermec.com**.

Supported Devices

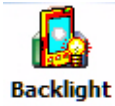
The CK60 should connect the following scanner models: 1551, 1553, 1555; ScanPlus 1800SR, 1800ST, 1800VT; Scan Image 1470; SF51 and SR61. There are a number of different scan engines covered by these models, including RFID and XLR scan engines. Model 1555 and Scan Image 1470 are supported as input devices only; configuration of these models are accomplished by scanning labels.

Using the Ambient Light Sensor

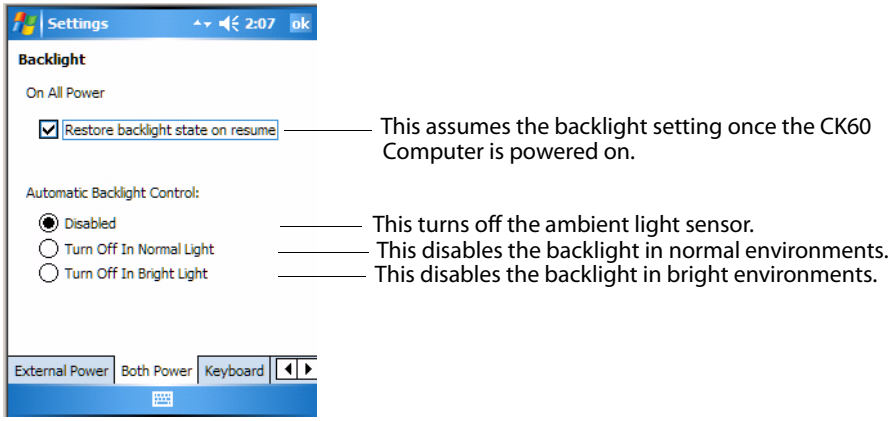
The ambient light sensor automatically turns off the display lighting as surrounding light increases to conserve your CK60 battery power.

As configured from the factory, the ambient light sensor is disabled.

To enable the ambient light sensor and change its settings



1. Tap **Start** > **Settings**> the **System** tab > the **Backlight** icon.
2. Tap the right arrow to scroll to and tap the **Both Power** tab.
3. Make your selections, then tap **ok** to close.



Using the Battery

The CK60 uses a 17.3 Watt-hour, 7.2V, replaceable Lithium-Ion (Li-ion) battery. You must fully charge the battery before you can use the CK60. When you change the battery, a backup battery (super capacitor) maintains your status, memory, and real-time clock for at least 10 minutes.

The Li-ion Battery used in this device may present a fire or chemical burn hazard if it is mistreated. Do not disassemble it, heat it above 100°C (212°F) or incinerate it.

If you fail to replace the battery immediately, you may lose important state or applications.

Dispose of used batteries promptly. Keep away from children. Contact your Intermec representative for replacements.

Several factors determine the life of your battery, such as extreme temperatures, input devices, and your usage. For example, if you use a tethered scanner every day, you need to replace your battery more often than someone who uses an internal scanner.

Note: The CK60 has an internal backup super capacitor which retains data for an average of ten minutes after the battery is removed. It also shuts down the CK60 if the battery suddenly goes away (removed from the computer). Depending upon the processes running, it may not have adequate power for a graceful shut down. If so, the CK60 performs a cold-boot the next time power is applied.

In short, put the CK60 into a suspend (sleep) mode before you remove the battery.

You can configure the battery power fail level so that after the system shuts down in a low battery condition, there is still sufficient charge to allow the unit to remain configured, keep proper time, and maintain DRAM (Dynamic Random Access Memory) for at least ten minutes at room temperature if the battery remains in the CK60, using the Power applet (see page 14). The state and time are lost if the battery discharges beyond this level, or the battery is removed when the computer is *not in suspend mode.*

Changing and Installing the Battery

Make sure you fully charge the battery before you install it in your CK60; and that you take at least 20 minutes to initially charge the backup battery before the backup system is fully functional.

To charge the battery

- Either insert the battery into the quad battery charger, or
- place the CK60 with battery installed in a single dock, a single dock with modem, or a multidock. The battery charge time is four hours or less on any of these docks if the temperature is within battery charging range.
- You could also use a power adapter to keep the CK60 on full power.

For maximum efficiency, store your CK60 on external power with which to charge your batteries. For more information on these accessories, see "Accessories for the CK60" on page 26.

To install the battery, insert the tabs on the bottom of the charged battery into the CK60 and snap the battery into place.

Maximizing Battery Life

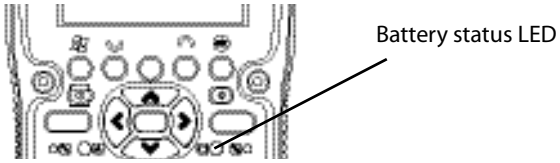
Below are things that you can do to maximize the life of your battery.

Maximizing the Life of Your Battery

When You Want To:	Do This to Save Battery Power:
Operate the CK60 and the Low Battery status icon appears or the Battery light comes on.	**1** Press the power switch to turn off the CK60. **2** Remove the battery and insert another fully charged battery as quickly as possible or you may lose state. Or, you can insert the CK60 into a powered quad battery charger.
Stop using the CK60 for five minutes or longer.	**1** Make sure the low battery icon is not on the screen and that the Battery light is not turned on. **2** Press the power switch to turn off the CK60.
Store the CK60 for more than a day.	**1** Save your state and end your computer session. **2** Press the power switch to turn off the CK60. **3** Insert a fully charged battery.

Checking the Battery Status Via LED

The battery status LED above your CK60 Keypad, as shown in the following illustration, indicates the status of your battery. See the following table to understand the meanings of the lights emitted from the LED.



Battery LED Statuses

Battery LED	Description
Steady Green	Battery is more than 95% charged and unit is on a charger.
Blinking Red	Battery is low.
Steady Red	Main battery is on charge.
Steady Amber	The battery is either out of the unit or the pack temperature is too hot or too cold to charge.

Checking the Battery Status Using the Power Applet

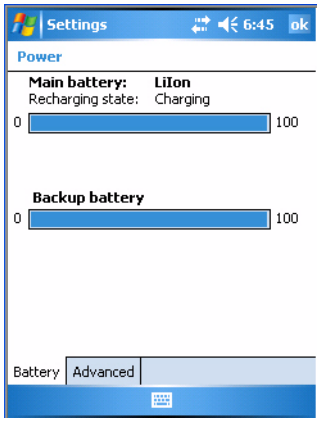
You can also use the Power applet to view the status of this battery.

To use the Power applet for battery status information

1 Tap **Start** > **Settings** > the **System** tab > the **Power** icon.

2 Tap the **Battery** tab.

3 Tap **ok** to close this applet.



Adjusting the Beeper

For information about setting volume levels for screen taps, ActiveSync alert noises, etc., tap **Start** > **Help**.

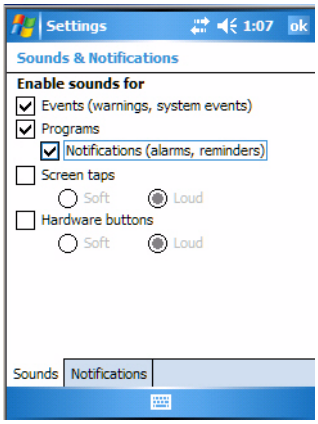
To adjust the volume

1 Tap **Start** > **Settings** > the **Personal** tab > the **Sounds & Notifications** icon.

2 Tap the **Sounds** tab.

3 Check for which features the CK60 should enable sounds.

4 Tap **ok** to close.

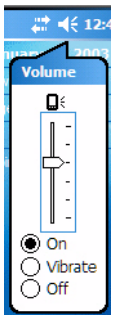


5 Tap the **Volume** icon at the top of the screen.

6 Tap **On**.

7 Move the slider bar to your desired level.

8 To disable the beeper, tap the **Volume** icon, either drag the slider to the bottom, or tap **Off**.



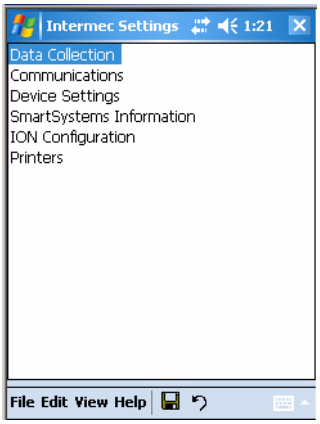
Using the Intermec Settings Applet

Use the Intermec Settings applet to gather, view, and update device configuration settings. Information about the settings you can configure with the Intermec Settings applet is in the *Intermec Computer Command Reference Manual* (P/N 073529) available online at **www.intermec.com**.

See the Data Collection Resource Kit in the Intermec Developer Library (IDL) for information about data collection functions. The IDL is available as a download from the Intermec web site at **www.intermec.com/idl**. Contact your Intermec representative for more information.

To access the Intermec Settings applet

- Tap **Start** > **Settings** > the **System** tab > the **Intermec Settings** icon.

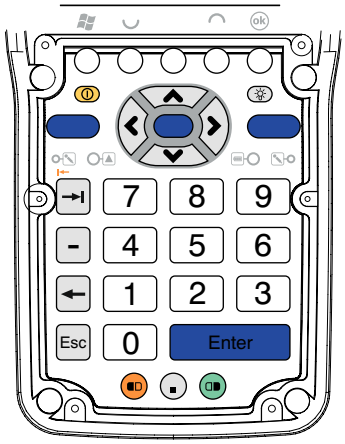


Using the Keypad

Your CK60 has one of the following keypad overlay options: 32-key large numeric keypad, or 58-key full alphanumeric keypad.

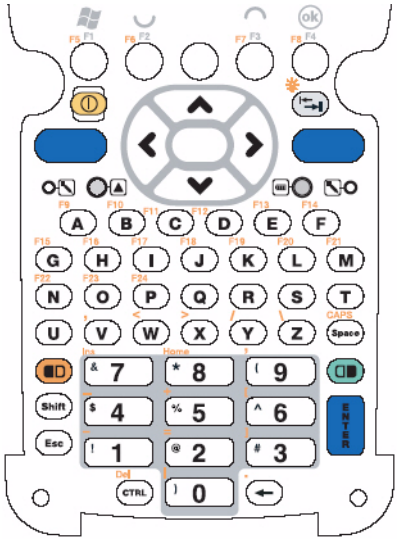
32-Key Large Numeric Keypad

This keypad is for applications that enter mainly numeric data (0-9). It also lets you enter special characters by pressing color-coded key sequences.



58-Key Full Alphanumeric Keypad

This keypad is for applications that enter mostly numeric data (0-9) and that may need to enter the entire alphabet. This keypad also does shift function keys (F1-F24) and special characters, symbols, and functions by pressing color-coded key sequences.



Using the Color-Coded Keys

Each keypad available for the CK60 provides color-coded keys to let you access additional characters, symbols, and functions printed on the keypad overlay. Once you understand how to use the color-coded keys and key sequences, you will know how to access all of the additional features printed on the keypad overlay. There are two color-coded modifier keys on the CK60: the orange ◧ key and the green ◨ key.

You press and release the first key, then press and release the second key to access the color-coded character or function printed above a key. Note that there are several hidden characters (such as < or >) on each CK60 keypad that require using the color-coded keys to access them.

Capitalizing All Characters

To type all alphanumeric characters as uppercase letters, you can enable the Caps Lock feature on the CK60 keypad.

To enable Caps Lock on the 58-key keypad

- Press the ◧ key, then the **Space** key. Press the same key sequence to disable the Caps Lock.

Using the Power Key

When you press the power button to turn off the CK60, you actually put the CK60 in Suspend mode. In Suspend mode, the CK60 continues to supply power to all memory, but turns off power to most hardware. This power-saving feature is to prolong battery life.

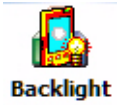
When you press the power button to turn the CK60 back on, your computer resumes where it was when you turned it off.

If the Battery LED flashes and the CK60 does not resume after pressing the power button, your battery may be too low to charge. Replace the battery.

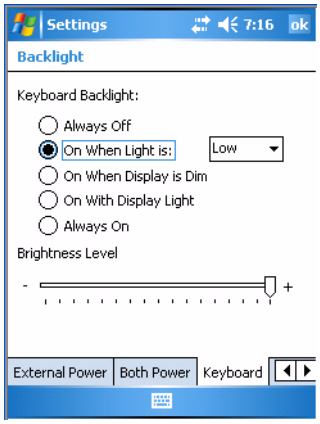
Turning on the Keypad Backlight

With the CK60, you can light up the keypad to work in low light settings. This backlight can stay lit until you disable it, or be set on a timer to dim or turn off after so many seconds of inactivity.

To adjust the keypad backlight for work in low-light settings



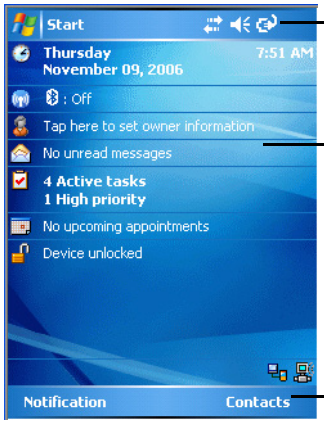
1. Tap **Start** > **Settings** > the **Backlight** icon.
2. Tap the right arrow, then tap the **Keyboard** tab.
3. Make your adjustments, tap **OK** to close.



Using the Screen

The CK60 has a 3.8" diagonal, 240x320 pixel (QVGA) transflective TFT-LCD 64K color display. The screens support Unicode characters, user-programmable fonts, and bitmap graphics.

The Start screen has three distinct areas: the toolbar, the desktop, and the taskbar.



The toolbar displays the Start flag, the connectivity icon, the volume icon, and the time and appointment.

The desktop displays shortcuts to some of the installed applications.

The taskbar displays the onscreen keyboard icon, Pocket PC links, and icons to any applications that are running, yet are hidden.

Using the Secure Digital Card

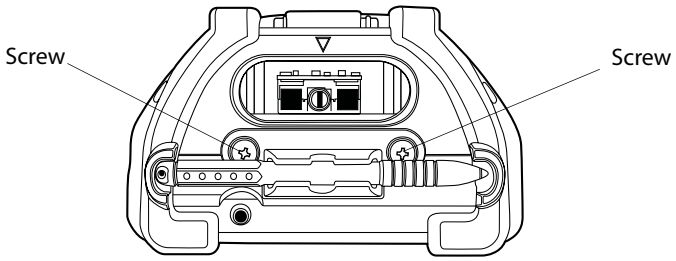
Note: MultiMediaCards (MMCs) and CompactFlash (CF) storage cards are not supported in the CK60.

Use a Delkin Devices Secure Digital card to increase file storage and install software. Its card slot is on the top of the CK60 just above the scanner window. Do the following to insert a card in the CK60:

Warning

You can corrupt your Secure Digital card if you do not follow these installation and removal procedures exactly. Before installing a Secure Digital card, inspect the gasket on the door for any damage or wear, and replace the door if any damage or wear is found

1. Press the power switch to turn off the CK60, remove the two screws on the Secure Digital card slot door and remove the door *(see the following illustration)*. Be sure to torque the screws to this door to 1.5 in-lbs.
2. Gently insert the Secure Digital card into the CK60 with the printed side facing the keypad and screen side of the CK60.
3. Push the card into the slot until it latches in place and the steel card retainer covers the end of the Secure Digital card.
4. *(Optional)* Replace the door, insert the door catch into the slot above the steel card retainer, replace the two screws, then press the power switch to turn on the CK60.



5. To remove the card, push in on the Secure Digital card until you hear it unlatch. The card should eject far enough that you can easily remove it from the CK60. If the card does not eject easily, turn the door upside down, then use the catch to pull out the Secure Digital card.

Using Software Tools

The following Intermec software tools are available as free downloads:

SmartSystems Foundation Console (www.intermec.com/SmartSystems)

This tool includes a management console that provides a default method to configure and manage Intermec devices "out-of-the-box," without the purchase of additional software licenses. This is for anyone who must configure and deploy multiple devices or manage multiple licenses.

SmartSystems Platform Bundles (SSPB)

The SmartSystems Platform Bundle (SSPB) is a bundle of software that contains the Data Collection Engine (DCE), SmartSystems, Funk Supplicant, Intermec Settings, and Intermec Developer Library (IDL) runtime.

The SSPB is stored in the "\Flash File Store" folder off the root of your CK60 and automatically installed on the device when it is initially started up. Updated bundles are available as software downloads from the Intermec web site at **www.intermec.com/SmartSystems**. Click **Downloads** on the left to access the latest.

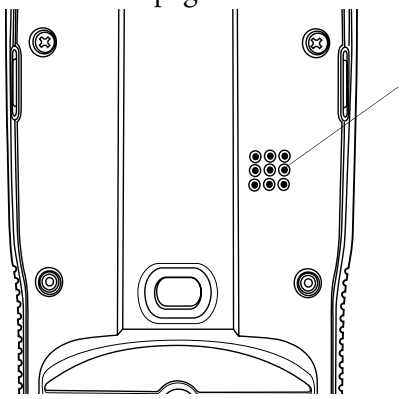
Intermec Resource Kits (www.intermec.com/IDL)

Resource Kits provide tools that build applications using the features of Intermec devices. Resource kits include: Bluetooth, Communications, Data Collection, Device Settings, Mobile Gadgets, Printing, and RFID.

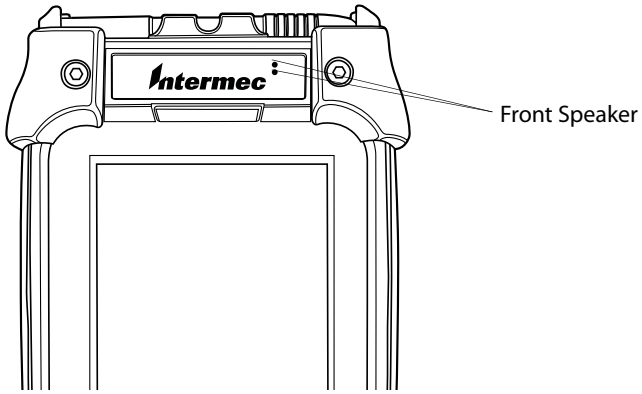
This is for anyone who develops software for the CK60.

Using the Speakers

The high-volume speaker on the back of the CK60, is capable of variable volume levels. This speaker is capable of reproducing voice and WAV files, and is used primarily to convey status tones. There is a separate volume control in the toolbar at the top of the display. You can also control the volume using the Intermec Settings applet. Information on this control and applet are on the next page.



The front speaker is a full-voice range speaker of cell-phone quality with separate volume control. See below for information on this volume control.



Warning

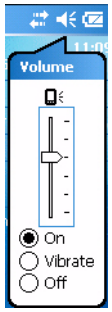
Do not place the speaker next to your ear when the speaker volume is set to "Loud" (maximum), or you may damage your hearing.

To adjust the volume control

1 Tap the **Volume** icon at the top of the screen.

2 Tap **On**, then move the system volume slider to the desired volume level. Up is louder, down is quieter.

3 To mute system sounds, tap **Off** or move the slider to the bottom.



You can also enable the speaker and adjust the volume with the Intermec Settings applet.

To adjust the volume control

Intermec Settings

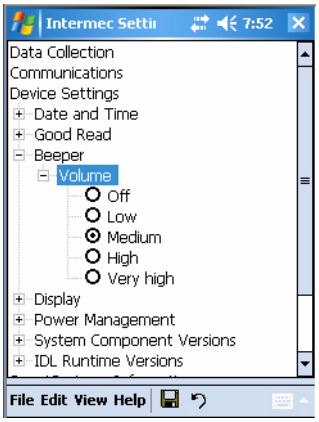
1 Tap **Start** > **Settings** > the **System** tab > the **Intermec Settings** icon.

2 Tap (+) to expand **Device Settings** > **Beeper** > **Volume**.

3 Tap any of the options other than "Off" to enable and adjust. To disable the speaker, tap the **Off** option.

4 Select **File** > **Save Settings** to save your changes.

5 Select **File** > **Exit** to close the applet.



Using the Status Lights

The status lights on the CK60 turn on to indicate the battery status or a successful bar code decode. The battery lights and screen icon work to alert you to your battery status. If the battery light (to the right of the **Scan** button) comes on, check the status bar to see what icon appears. The battery may be critically low and need replacing. The **Good Read** light (green) above the display indicates a successfully decoded bar code.

Using the Stylus

Your CK60 has a stylus for selecting items and entering information. Use the stylus in place of a mouse.

Ways to Use the Stylus

Action	Description
Tap	Touch the screen once with the stylus to select options, close applications, launch applications, or launch menus from the taskbar.
Drag	Hold the stylus on the screen and drag across the screen to select text and images.
Tap and hold	Tap and hold an icon to see a list of actions available for the item. On the pop-up menu that appears, tap the action to perform.

Setting the Vibrate Mode

When you want to set the CK60 to vibrate, you can use any of these methods: using the Volume applet from the Start screen, using the Intermec Settings applet, or using the Sounds & Notifications applet.

Setting the CK60 to Vibrate Using the Volume Control

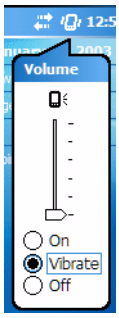
The Volume Control icon is seen in the toolbar at the top of the screen.

To set your CK60 to vibrate

1 Tap the **Volume** icon at the top of the screen.

2 Select **Vibrate**.

3 Tap anywhere onscreen to clear the control from your display.



Setting the Vibrate Mode Using Intermec Settings

You can also set the vibrate using the Intermec Settings applet.

To set your CK60 to vibrate

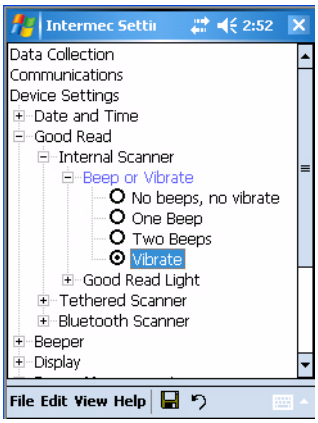
1 Tap **Start** > **Settings** > the **System** tab > the **Intermec Settings** icon.

2 Tap (+) to expand **Device Settings** > **Good Read** > any of the **Scanner** options > **Beep or Vibrate**, then tap **Vibrate**.

3 To disable the vibrate, tap any of the other **Beep** options.

4 Select **File** > **Save Settings** to save your changes.

5 Select **File** > **Exit** to close the applet.

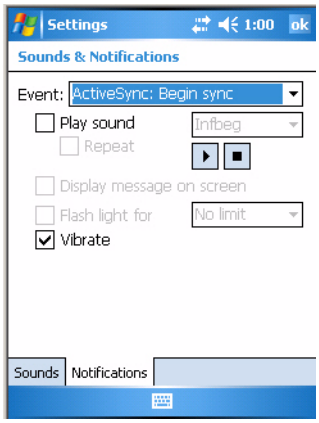


Setting the Vibrate Mode Using Sounds & Notifications

The Sounds & Notifications applet is another place where you can set the vibrate mode.

To set the vibrate mode

1. Tap **Start** > **Settings** > the **Personal** tab > the **Sounds & Notifications** icon.
2. Tap the **Notifications** tab.
3. Select the event from the **Event** drop-down list.
4. Check **Vibrate**.
5. Tap **ok** to close.



Physical and Environmental Specifications

Use this section to locate technical information about the CK60 and its available features and options.

Physical Dimensions

Length:	22.2 cm (8.75")
Width:	9.0 cm (3.55")
Height:	5.3/3.6 cm (2.08"/1.4") at top of keypad
Weight:	704 g (24.8 oz)

Hardware

Microprocessor:	Intel XScale PXA272
Application Processor:	520 MHz RAM
Memory:	64 or 128 MB
Flash ROM:	64 MB
Persistent Storage:	128 MB, provides onboard non-volatile storage of applications and data
Removable Storage:	SDIO Card Slot, user-accessible
Keypad:	32-key with large numeric keys or 58-key with full alphanumeric keys; both with LED backlighting

Operating System

Microsoft Windows Mobile 5.0

Software

Development Environments:	Embedded Visual C++ 4.0, .NET Compact Framework (VB. NET, C#)
IDL:	Integrates with leading development environments; supports device-specific features and bar code scanning
Browser support:	Internet Explorer 6-compatible

Bar Code Scanning

Options of Integrated 2D Area Imager or 1D & PDF417 Linear Imager
Supports all popular 1D and 2D symbologies including Australian Post, British Post, Codabar, Codablock A, Codablock F, Code 11, Code 2 of 5, Code 39, Code 93, Code 93i, Code 128, Datamatrix, Dutch Post, ISBT 128, Interleaved 2 of 5, Macro 2 of 5, Matrix 2 of 5, Maxicode, Micro PDF417, MSI, PDF417, Planet, Plessey, Postnet, QR Code, RSS 14, RSS Expanded, RSS Limited, Telepen, TLC39, UCC-EAN Composite Code, UPC/EAN

Standard Communications

USB Host and Client, Ethernet 10/100 Base-T, Bluetooth Class 1, V2.0 + EDR, RS232 Serial, IrDA 1.1

Wireless LAN

Standards Compliant:	IEEE 802.11g (2.4 GHz - OFDM) IEEE 802.11b (2.4 GHz - DSSS) IEEE 802.11a (5.0 GHz - OFDM)
Data Rates:	Up to 54 Mbps for 802.11g Up to 11 Mbps for 802.11b Up to 54 Mbps for 802.11a
Radio Power Output:	50 mW
Security:	WEP, WPA, 802.11i, 802.1x (EAP-TLS, TTLS, LEAP, PEAP)
Certifications:	Wi-Fi, WPA2, Cisco Compatible Extensions V2

Device Management

SmartSystems™ Support:	Centralized remote support capability; configures, updates, and maintains single devices or entire populations; real-time or batch, wired or wireless. Based on Wavelink Avalanche™ with Intermec value added utilities.

Power Specifications

Operating:	Removable, rechargeable LiIon battery pack; 7.2 V, 2400 mAh (17.3 Watt-hours); battery life is application-dependent; recharging cycle is 4 hours or less
Backup:	Super capacitor supplies 10 minutes bridge time while replacing the main battery

Electrical Specifications

External Charge Power:	11 to 28 VDC @ 1.5 A max. (18 W max.)

Environment

Operating temperature:	-20° to 50°C (-4° to 122°F)
Storage temperature:	-30° to 70°C (-22° to 158°F)
Humidity:	5% to 95% noncondensing
Electrostatic Discharge:	±8kV Contact Discharge; ±15kV Discharge
Rain and Dust Resistance:	IP64 compliant
Drop Survival:	Multiple 6 ft (1.8 m) drops to steel or concrete

Screen Specifications

Transflective TFT; QVGA Color with touch panel; 240x320 pixels; 9.7 cm (3.8") diagonal active area; 5-level LED backlight control with high and low settings

Regulatory Approvals

UL and cUL Listed, UL 60950 and UL 1604 and CSA 22.2 No. 157, FCC Part 15, TUV, CE mark

Accessories for the CK60

You can use these accessories (sold and ordered separately) with the CK60. To order accessories, contact your local Intermec representative.

AC4 Quad Battery Charger

Use the Quad Battery Charger to charge up to four AB11 Batteries without having to remove them from the CK60. You can insert up to four CK60s with batteries installed making it easy to remember to charge your batteries overnight. The charger also provides power to your CK60s while communicating via Ethernet.

AD3 Ethernet Multidock

Use the AD3 Ethernet Multidock to hold up to four CK60s with a batteries installed. The multidock charges the batteries, provides power to the CK60s, provides one Ethernet connector, and provides a serial port for each inserted CK60.

AD5 Single Dock
Use the AD5 Single Dock to hold a CK60 with its battery installed. The single dock charges the battery, provides power to the CK60, provides an Ethernet connector, and provides a serial port for the inserted CK60.

AD6 Single Dock with Modem
Use the AD6 Single Dock with Modem to hold a CK60 with its battery installed. The single dock charges the battery, provides power to the CK60, provides an Ethernet connector, and provides a serial port for the inserted CK60.

CK60 Holster and Belt
Use the holster and belt to carry your CK60 while not using it. The holster and belt support either right- or left-handed use and you can use it to carry a CK60 with or without a handle. You can only use this with a CK60 that has either the 1D linear imager or the 2D imager.

CK60 Handstrap
The removable and adjustable handstrap make it easy for you to hold and use the CK60 without tiring your hand.

CK60 Power Adapter, AA6 USB Adapter, and Snap-On Adapters
Provides power to all of the docks and chargers.

2 Windows Mobile

This chapter introduces Microsoft Windows Mobile 5.0 for Pocket PC. While using the CK60 Mobile Computer, keep these key points in mind:

- Tap **Start** on the navigation bar, located at the top of the screen, to quickly move to programs, files, and settings. Use the command bar at the bottom of the screen to perform tasks in programs. The command bar includes menus, icons, and the onscreen keyboard.
- Tap and hold an item to see a pop-up menu containing a list of actions you can perform. Pop-up menus give you quick and easy access to the most common actions.

Below is a list of Windows Mobile components described in this chapter. Tap **Start** > **Help**, then select a topic on your CK60 to find additional information on Windows Mobile components.

Windows Mobile 5.0 Components

Microsoft ActiveSync (page 45)
Microsoft Pocket Outlook (page 47)
Word Mobile (page 68)
Excel Mobile (page 71)
PowerPoint Mobile (page 72)
Windows Media (page 74)
Using Internet Explorer Mobile (page 76)

Software Builds

See "Learning Software Build Versions" on page 3 to determine which Intermec build of Windows Mobile 5.0 is on your unit.

Where to Find Information

This chapter describes your CK60 hardware, provides an overview of the programs on your CK60, and explains how to connect your CK60 to a desktop, a network, or the Internet. For instructions on setting up your CK60 and installing ActiveSync, see the Quick Start Guide. The following is a guide to more information to assist you use your CK60.

For information on:	See this source:
Programs on your mobile computer.	This chapter and mobile computer Help. To view Help, tap **Start** > **Help**, then select a topic.
Additional programs that can be installed on the mobile computer.	The *Windows Mobile Companion CD*.
Connecting to and synchronizing with a desktop.	The Quick Start Guide or *ActiveSync Help* on your desktop. To view Help, click **Help** > **Microsoft ActiveSync Help**.
Last-minute updates and detailed technical information.	The Read Me files, located in the Microsoft ActiveSync folder on the desktop and on the *Windows Mobile Companion CD*.
Up-to-date information on your Windows Mobile.	**www.microsoft.com/windowsmobile/resources/communities/default.mspx**

Windows Mobile and many of the technologies supported by the CK60 are not from Intermec. Many of the utilities and features on a Windows Mobile device come directly from Microsoft without any modification from Intermec. There may be certain Microsoft-specific issues that Intermec would not be able to support, so contact our front-line support personnel to determine the best source of assistance.

Use these URLs for additional information about Microsoft Windows Mobile (Pocket PC):

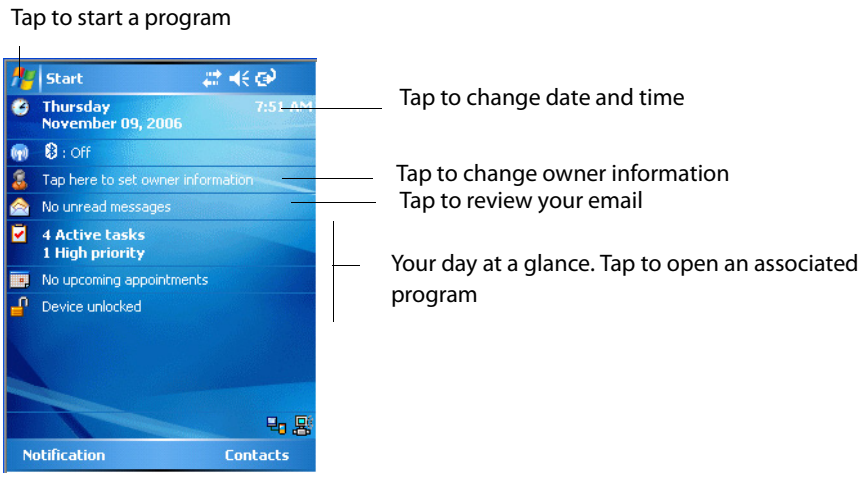
- **msdn2.microsoft.com/en-us/support/default.aspx**
- **support.microsoft.com/**
- **http://msdn.microsoft.com/newsgroups/** *(a free support option)*

Basic Skills

Learning to use your CK60 is easy. This section describes the basic concepts of using and customizing your CK60.

Today Screen

When you turn on your CK60 for the first time each day *(or after four hours of inactivity)*, you see the **Today** screen. You can also display it by tapping the **Start** flag at the top left of your display and then **Today**. On the Today screen, you can see important information for the day.



To customize what is displayed on the Today screen, including the background image, tap **Start** > **Settings** > the **Personal** tab > the **Today** icon.

Status icons display information such as low batteries or when the CK60 is connected to a desktop or to the Internet. You can tap an icon to open the associated setting or program.

Programs

You can switch from one program to another by selecting it from the **Start** menu. (You can customize which programs you see on this menu. For information, see "To adjust settings to fit the way you work" on page 42.) To access some programs, tap **Start** > **Programs**, and then the program name.

You can also switch to some programs by pressing a program icon. Your CK60 has one or more program icons located on the front or side of the computer. The icons identify the programs to which they switch.

Note: Some programs have abbreviated labels for check boxes and drop-down menus. To see the full spelling of an abbreviated label, tap and hold the stylus on the label. Drag the stylus off the label so that the command is not carried out.

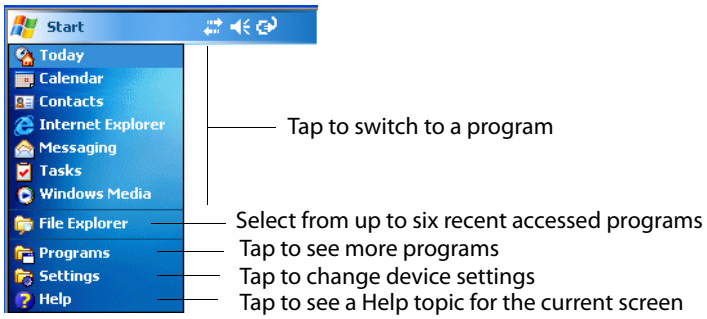
The following is a partial list of programs that are on your CK60, in the order they appear in the Start menu. Look on the *Windows Mobile*

Companion CD for additional programs that you can install onto your CK60.

Calendar	Keep track of your appointments and create meeting requests.
Contacts	Keep track of your friends and colleagues.
Internet Explorer	Browse Web and WAP (Wireless Application Protocol) sites, and download new programs and files from the Internet.
Messaging	Send and receive e-mail messages.
Tasks	Keep track of your tasks.
Windows Media	Play digital audio and video files that are stored on your CK60 or on a network.

Navigation Bar and Command Bar

The navigation bar is located at the top of the screen. It displays the active program and current time, switch to programs, and close screens.

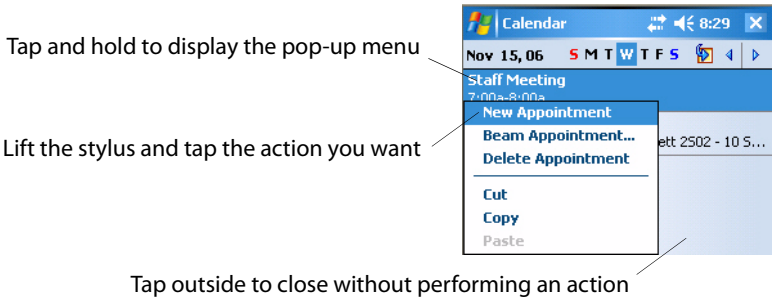


Use the command bar at the bottom of the screen to perform tasks in programs. The command bar includes menu names, functions, and the **Input Panel** icon, when needed. To create a new item in the current program, tap **New**. To see the name of a icon, tap and hold the stylus on the icon. Drag the stylus off the icon to not carry out the command.

Pop-up Menus

Use pop-up menus to quickly perform an action on an item. For example, you can use a pop-up menu to delete or make a copy of an item. To access a pop-up menu, tap and hold the item on which you want to perform the action. When the menu appears, tap the action you want to perform, or tap

anywhere outside the menu to close the menu without doing an action.



Notifications

When you have something to do, your CK60 notifies you in a variety of ways. For example, if you have set up an appointment in Calendar, an e-mail message arrives, or a friend sends you an instant message, you are notified in any of the following ways: a message box appears on the screen, a sound (which you can specify) is played, a light flashes on your CK60, or the CK60 vibrates. You can choose the notification types.

Entering Information

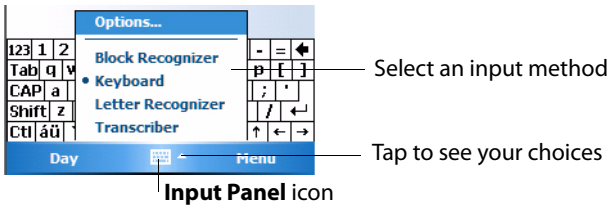
You can enter information on your CK60 in several ways, depending on the type you have and the program you are using:

Ways to Enter Information

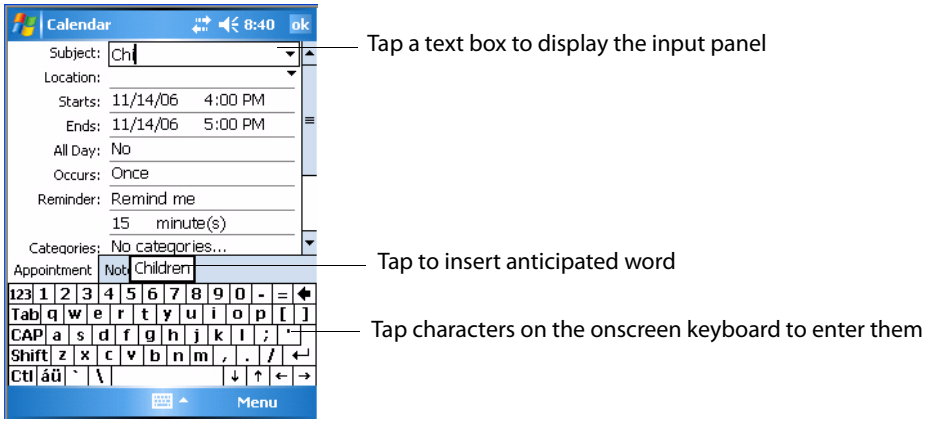
Action	Description
Synchronizing	Using Microsoft ActiveSync, synchronize or copy information between your desktop and CK60. For more information on ActiveSync, see *ActiveSync Help* on your desktop.
Typing	Using the input panel, enter typed text into the CK60. Do this by tapping keys on the onscreen keyboard or by using handwriting recognition software.
Writing	Using the stylus, write directly on the screen.
Drawing	Using the stylus, draw directly on the screen.
Recording	Create stand-alone recording or embed recording into document or note.

Use the input panel to enter information in any program on your CK60. You can either type using the onscreen keyboard or write using **Block Recognizer**, **Letter Recognizer**, or **Transcriber**. In either case, the characters appear as typed text on the screen.

To show or hide the input panel, tap the **Input Panel** icon. Tap the arrow next to the **Input Panel** icon to see your choices.



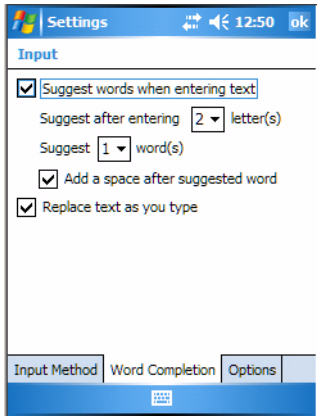
When you use the input panel, your CK60 anticipates the word you are typing or writing and displays it above the input panel. When you tap the displayed word, it is inserted into your text at the insertion point. The more you use your CK60, the more it learns to anticipate.



You can change how the word suggestion feature works on your CK60.

To change word suggestion options

- Tap **Start** > **Settings** > the **Personal** tab > the **Input** icon > the **Word Completion** tab.



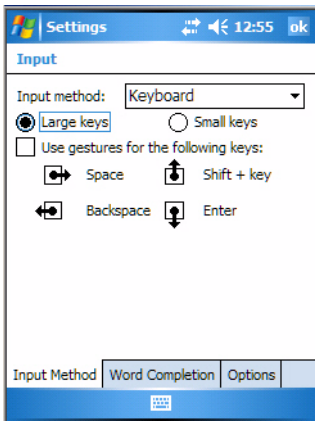
Typing With the Onscreen Keyboard

Tap the input panel arrow, then tap **Keyboard**. On the soft keyboard that is displayed, tap the keys with your stylus.

- To type a single uppercase letter or symbol, tap the **Shift** key. To tap multiple uppercase letters or symbols, tap the **CAP** key.
- To convert a letter to uppercase, tap, and hold the stylus on the letter and drag up.
- To add a space, drag the stylus to the right across at least two keys.
- To backspace a character, drag the stylus to the left across multiple keys.
- To insert a carriage return, tap and hold the stylus anywhere on the keyboard and drag down.

To use larger keys

1. Tap the input panel arrow.
2. Tap **Options**.
3. Select "Keyboard" from the **Input method** drop-down list.
4. Select **Large keys**.

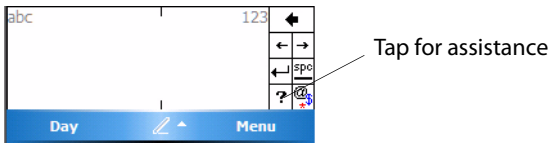


Using Block Recognizer

Character recognition software gives you a fast and easy method for entering information in any program on your CK60. Letters, numbers, and punctuation you write are translated into typed text.

Tap the input panel arrow, then tap **Block Recognizer**. Write a letter in the box. When you write a letter, it is converted to typed text that appears on the screen.

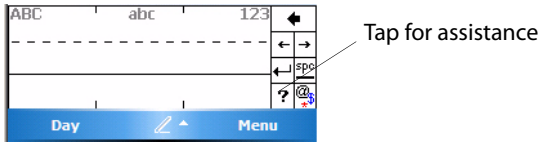
For specific instructions on using Block Recognizer, with Block Recognizer open, tap the question mark next to the writing area.



Using Letter Recognizer

With Letter Recognizer, you can write letters using the stylus just as you would on paper.

Tap the input panel arrow, then tap **Letter Recognizer**. Write a letter in the box. When you write a letter, it is converted to typed text that appears on the screen. For specific instructions on using Letter Recognizer, with Letter Recognizer open, tap the question mark next to the writing area.



Using Transcriber

With Transcriber, you can write anywhere on the screen using the stylus just as you would on paper. Unlike Letter Recognizer and Block Recognizer, you can write a sentence or more of information. Then, pause and let Transcriber change the written characters to typed characters.

Tap the input panel arrow, then tap **Transcriber**. Tap **ok**, then write anywhere on the screen.

For specific instructions on using Transcriber, with Transcriber open, tap the question mark in the lower, right-hand corner of the screen.

Selecting Typed Text

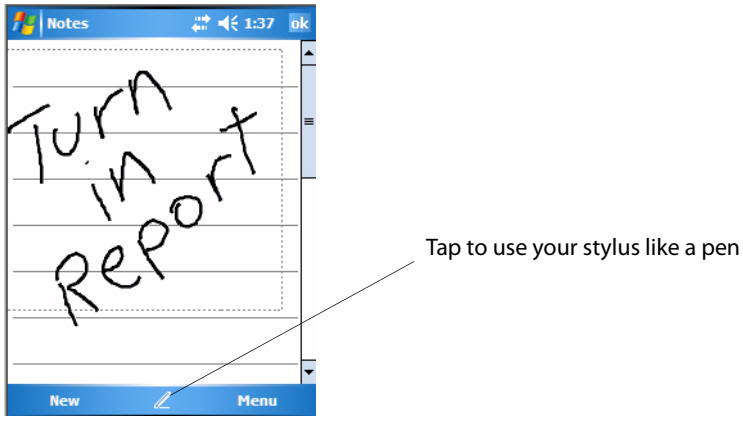
If you want to edit or format typed text, you must select it first. Drag the stylus across the text you want to select.

You can cut, copy, and paste text by tapping and holding the selected words and then tapping an editing command on the pop-up menu, or by tapping the command under **Menu**.

Writing on the Screen

In any program that accepts writing, such as the Notes program, and in the **Notes** tab in Calendar and Contacts, you can use your stylus to write directly on the screen. Write the way you do on paper. You can edit and format what you have written and convert the information to text at a later time. Tap the **Pen** icon to switch to writing mode. This action displays

lines on the screen to help you write.



Note: Some programs that accept writing may not have the **Pen** icon. See the documentation for that program to find out how to switch to writing.

Selecting the Writing

If you want to edit or format writing, you must select it first.

To select the writing

1. Tap and hold the stylus next to the text you want to select until the insertion point appears.
2. Without lifting, drag the stylus across the text you want to select.
3. If you accidentally write on the screen, tap **Menu** > **Undo** and try again.
4. You can also select text by tapping the **Pen** icon to deselect it and then dragging the stylus across the screen.

You can cut, copy, and paste written text in the same way you work with typed text: tap and hold the selected words and then tap an editing command on the pop-up menu, or tap the command under **Menu**.

Converting Writing to Text

You can convert words you write in print or cursive to text.

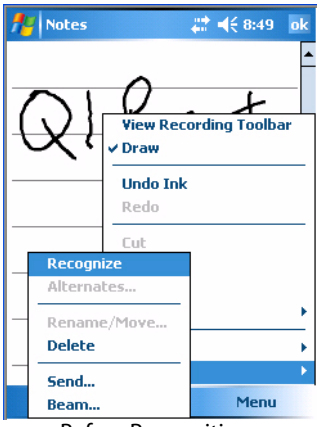
To convert words into text

- Tap **Menu** > **Tools** > **Recognize**. If a word is not recognized, it stays in its original form.

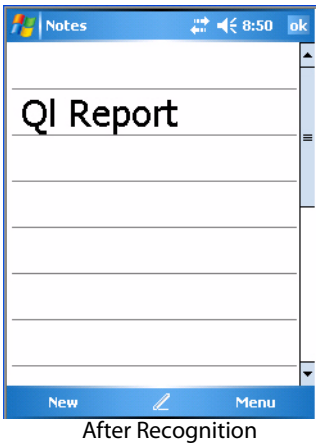
To convert only certain words

1. Tap **Pen** to disable the writing function.
2. Tap twice over the word or phrase to highlight.

3 Tap **Menu** > **Tools** > **Recognize**.



Before Recognition



After Recognition

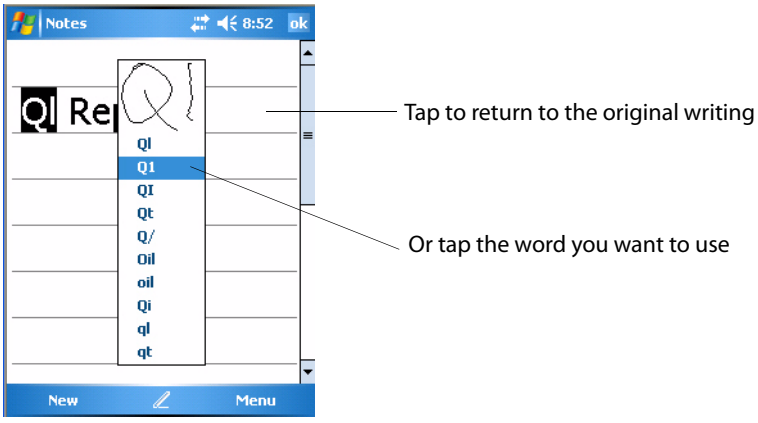
If the conversion is incorrect, you can choose different words from a list of alternates or return to the original writing.

To choose different words

1 Tap and hold the incorrect word (tap one word at a time).

2 On the pop-up menu, tap **Alternates**.

3 Tap the word use from the menu with a list of alternate words, or tap the writing at the top of the menu to return to the original writing.



Tips for getting good recognition:

- Write neatly.
- Write on the lines and draw descenders below the line. Write the cross of the "t" and apostrophes below the top line so they are not confused with the word above. Write periods and commas above the baseline.
- For better recognition, try increasing the zoom level to 300% by selecting **Menu** > **Zoom**. Recognition is not good under a 150% zoom.
- Write the letters of a word closely and leave big gaps between words so that the CK60 can easily tell where words begin and end.

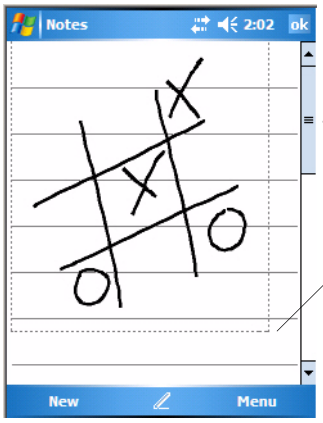
- Hyphenated words, foreign words that use special characters such as accents, and some punctuation cannot be converted.
- If you add writing to a word to change it (such as changing a "3" to an "8") after you attempt to recognize the word, the writing you add is not included if you attempt to recognize the writing again.

Drawing on the Screen

You can draw on the screen in the same way that you write on the screen. The difference between writing and drawing on the screen is how you select items and how they are edited. For example, you can resize selected drawings, while you cannot resize writing.

To create a drawing

- Select **Menu** > **Draw**, then draw a line to initiate a drawing box. Subsequent strokes in or touching the drawing box become part of the drawing.



Note: You may want to change the zoom level so that you can easily work on or view your drawing. Tap **Menu** > **Zoom**, then select a zoom level.

If you want to edit or format a drawing, you must select it first.

To select a drawing

- Tap and hold the stylus on the drawing until the selection handle appears.
- To select multiple drawings, deselect the **Pen** icon and then drag to select the drawings you want.

You can cut, copy, and paste selected drawings by tapping and holding the selected drawing and then tapping an editing command on the pop-up menu, or by tapping the command under **Menu**. To resize a drawing, make sure the **Pen** icon is not selected, and drag a selection handle.

Recording a Message

In any program where you can write or draw on the screen, you can also quickly capture thoughts, reminders, and phone numbers by recording a message.

In the Messaging program, you can add a recording to an e-mail message. In Calendar and Contacts, you can include a recording in the **Notes** tab. In the Notes program, you can create a stand-alone recording or add a recording to an open note.

To make a recording

1 Tap **Menu** > **View Recording Toolbar** to add the recording toolbar to the bottom of the screen.

2 Hold the CK60's microphone near your mouth or source of sound.

3 Tap the red circle to start your recording.

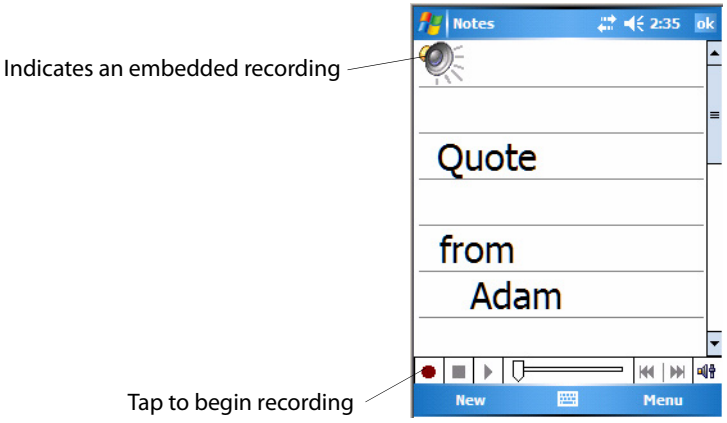
4 Tap the black box when finished. If you are recording in an open note, an icon appears in the note, like in the following sample. If you are creating a stand-alone recording, it appears in the note list.

5 To play a recording, tap the recording icon in the open note or tap the recording in the note list.

Note: To quickly create a recording, hold down the Record hardware button. When you hear the beep, begin your recording. Release the button when you are finished. The new recording is stored in the open note or as a stand-alone recording if no note is open.

To play a recording

- Tap it in the list or tap its icon in the note.

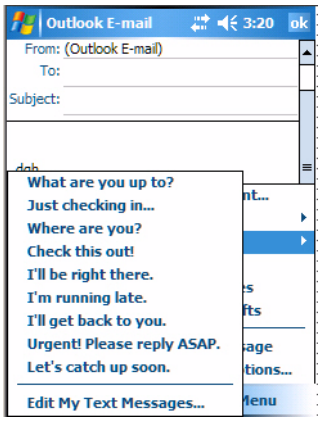


Using My Text

When using Messaging, use **My Text** to quickly insert preset or frequently used messages into the text entry area.

To insert a message

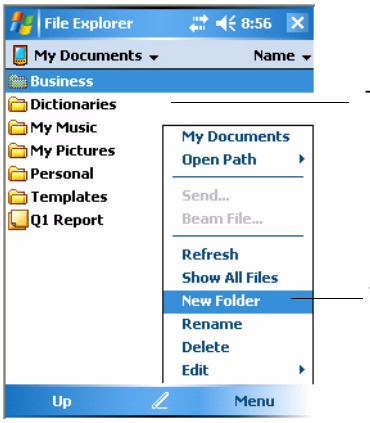
- Tap **Menu** > **My Text**, then select a message.
- To quickly add common messages, tap **Menu** > **My Text** and tap a desired message.
- To edit a My Text message, tap **Menu** > **My Text** > **Edit My Text Messages**. Tap the message you want to edit and enter new text at the bottom of the screen.

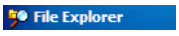


Finding and Organizing Information

File Explorer

You can use the File Explorer to find files on the CK60, and organize these files into folders, and move files using the cut or copy-and-paste methods. Tap **Start** > **Programs** > the **File Explorer** icon.




File Explorer

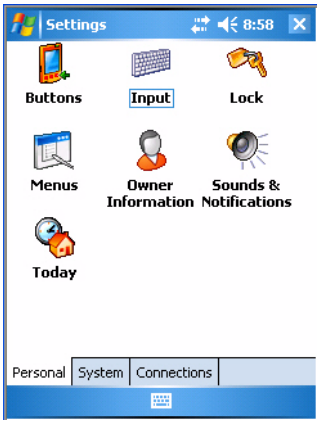
For future use, this is added to your Start menu in the Recent Programs area, via **Start** > **File Explorer**.

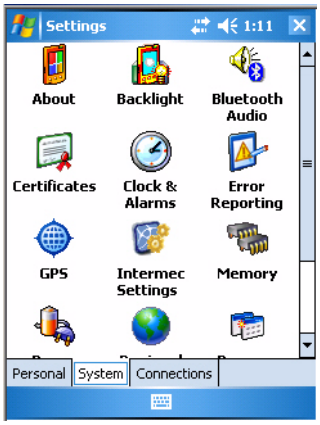
Customizing Your CK60

You can customize by adjusting settings and installing additional software.

To adjust settings to fit the way you work

- Tap **Start** > **Settings** > either the **Personal** tab or the **System** tab located at the bottom of the screen.





Applets and their Functions

Applet	What You Can Use this Applet to Do
Menus	To customize what appears on the **Start** menu.
Owner Information	To enter your contact information.
Password	To limit access to your CK60.
Today	To customize the look, information displayed on the Today screen.
Clock & Alarms	To change the time or to set alarms.
Power	To maximize battery life.

Programs added to your CK60 at the factory are stored in ROM (Read Only Memory). You cannot remove this software, and you cannot accidentally lose ROM contents. ROM programs can be updated using special installation programs with a *.XIP extension. All other programs and data files added to your CK60 after factory installation are stored in RAM (Random Access Memory).

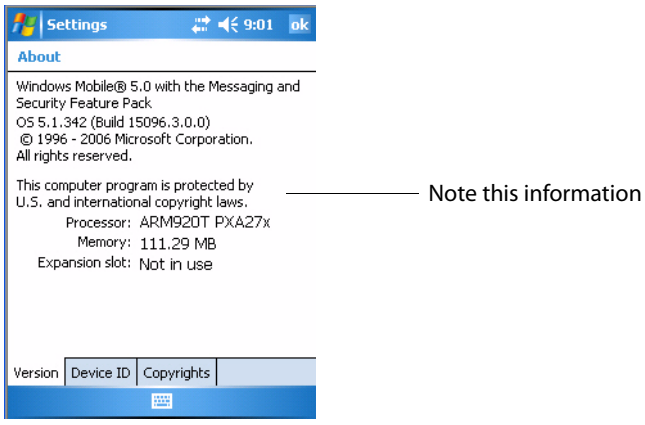
You can install any program created for the CK60, as long as there is enough memory. A popular place to find software for your CK60 is on the Windows Mobile Web site (**www.microsoft.com/windowsmobile/resources/communities/default.mspx**).

To add programs using ActiveSync

Install the appropriate software for your CK60 on your desktop before installing it on your CK60.

1 Determine your CK60 and processor type so that you know which version of the software to install.

2 Tap **Start** > **Settings** > the **System** tab > the **About** icon > the **Version** tab, then make a note of the information in Processor.



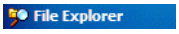
3 Download the program to your desktop (or insert the CD or disk that contains the program into your desktop). You may see a single *.XIP, *.EXE, or *.ZIP file, a SETUP.EXE file, or several versions of files for different CK60 types and processors. Be sure to select the program designed for the Windows Mobile and your CK60 processor type.

4 Read any installation instructions, Read Me files, or documentation that comes with the program. Many programs provide special installation instructions.

5 Connect your CK60 and desktop.

6 Double-click the *.exe file.

- If the file is an installer, the installation wizard begins. Follow the directions on the screen. Once the software is installed, the installer automatically transfers the software to your CK60.
- If the file is not an installer, an error message stating that the program is valid but it is designed for a different type of computer is displayed. Move this file to your CK60. If you cannot find any installation instructions for the program in the Read Me file or documentation, use ActiveSync Explore to copy the program file to the Program Files folder on your CK60. For more information on copying files using ActiveSync, see *ActiveSync Help*.



Once installation is complete, tap **Start** > **Programs**, and then the program icon to switch to it. For future use, this is added to your Start menu in the Recent Programs area, via **Start** > **File Explorer**.

To add a program directly from the Internet

1 Determine your CK60 and processor type so that you know which version of the software to install.

2 Tap **Start** > **Settings** > the **System** tab > the **About** icon > the **Version** tab, then make a note of the information in Processor.

3 Download the program to your CK60 straight from the Internet using Pocket Internet Explorer. You may see a single *.XIP, *.EXE, or *.ZIP file, a SETUP.EXE file, or several versions of files for different CK60 types and processors. Be sure to select the program designed for the Windows Mobile and your CK60 processor type.

4 Read program installation instructions, Read Me files, or other documentation. Many programs provide installation instructions.

5 Tap the file, such as a *.XIP or *.EXE file to start the installation wizard. Follow the directions on the screen.

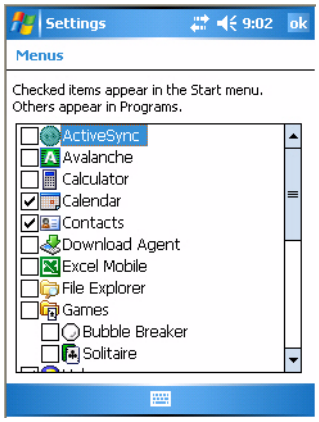
To adding a program to the Start Menu

1 Tap **Start** > **Settings** > the **Personal** tab > the **Menus** icon.

2 Tap the check box for the program you want to add.

3 Tap **ok** to close.

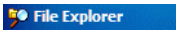
If you do not see the program listed, you can either use File Explorer on the CK60 to move the program to the Start Menu folder, or use ActiveSync on the desktop to create a shortcut to the program and place the shortcut in the Start Menu folder.



To using File Explorer on the CK60

1. Tap **Start** > **Programs** > the **File Explorer** icon.
2. Locate the program (tap the folder list, labeled My Documents by default, then My Device to see a list of all folders on the CK60).
3. Tap and hold the program and tap **Cut** on the pop-up menu.
4. Open the Start Menu folder located in the Windows folder.
5. Tap and hold a blank area of the window, and tap **Paste** on the pop-up menu for the program to appear on the Start menu.

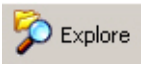
For more information on using File Explorer, see "Finding and Organizing Information" on page 41.



For future use, this is added to your Start menu in the Recent Programs area, via **Start** > **File Explorer**.

Use the Explorer in ActiveSync to explore your CK60 files and locate the program.

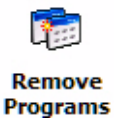
To use ActiveSync on the desktop



1. Right-click the program, and then click **Create Shortcut**.
2. Move the shortcut to the Start Menu folder in the Windows folder for the shortcut to appears on the Start menu.

For more information, see *ActiveSync Help*.

To remove programs



1. Tap **Start** > **Settings** > the **System** tab > the **Remove Programs** icon.
2. If the program does not appear in the list of installed programs, use File Explorer on your CK60 to locate the program, tap and hold the program, and then tap **Delete** on the pop-up menu.

Microsoft ActiveSync

Visit the following Microsoft Web site for the latest in updates, technical information, and samples:

www.microsoft.com/windowsmobile/resources/communities/default.mspx

Using Microsoft ActiveSync, you can synchronize the information on your desktop with the information on your CK60. Synchronization compares the data on your CK60 with your desktop and updates both computers with the most recent information. For example:

- Keep Pocket Outlook data up-to-date by synchronizing your CK60 with Microsoft Outlook data on your desktop.
- Synchronize Microsoft Word and Microsoft Excel files between your CK60 and desktop. Your files are converted to the correct format.

Note: By default, ActiveSync does not automatically synchronize all types of information. Use ActiveSync options to turn synchronization on or off for specific information types.

With ActiveSync, you can also:

- Back up and restore your CK60 data.
- Copy (rather than synchronize) files between your CK60 and desktop.
- Control when synchronization occurs by selecting a synchronization mode. For example, you can synchronize continually while connected to your desktop or only when you choose the synchronize command.
- Select which information types are synchronized and control how much data is synchronized. For example, you can choose how many weeks of past appointments you want synchronized.

Before you begin synchronization, install ActiveSync on your desktop from the *Windows Mobile Companion CD*. For more information on installing ActiveSync, see your Quick Start card. ActiveSync is already installed on your CK60.

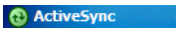
After installation is complete, the ActiveSync Setup Wizard helps you connect your CK60 to your desktop, set up a partnership so you can synchronize information between your CK60 and your desktop, and customize your synchronization settings. Your first synchronization process automatically begins when finished using the wizard.

After your first synchronization, look at Calendar and Contacts on your CK60. Notice that information you have stored in Microsoft Outlook on your desktop was copied to your CK60, and you did not have to type a word. Disconnect the CK60 from your computer and you are ready to go!

Once you have set up ActiveSync and completed the first synchronization process, you can initiate synchronization from your CK60.

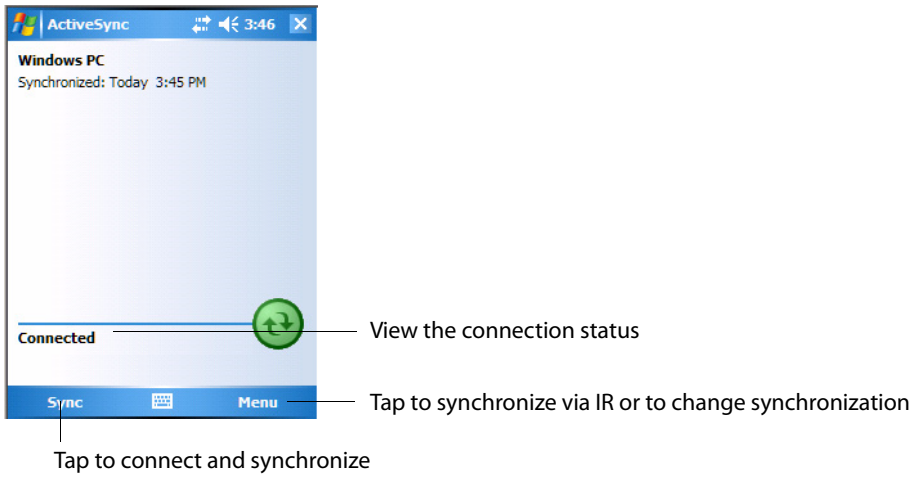
To switch to ActiveSync on your CK60

- Tap **Start** > **Programs** > the **ActiveSync** icon. Note that if you have a wireless LAN card, you can synchronize remotely from your CK60.



For future use, this is added to your Start menu in the Recent Programs area, via **Start** > **ActiveSync**.

For information about using ActiveSync on your desktop, start ActiveSync on your desktop, and then see *ActiveSync Help*.



For more information about ActiveSync on your CK60, switch to ActiveSync, tap **Start** > **Help**, then select a topic.

Microsoft Pocket Outlook

Microsoft Pocket Outlook includes Calendar, Contacts, Messaging, and Notes. You can use these programs individually or together. For example, you can use e-mail addresses stored in Contacts to address e-mail messages in Messaging.

Using ActiveSync, you can synchronize information in Microsoft Outlook or Microsoft Exchange on your desktop with your CK60. You can also synchronize this information directly with a Microsoft Exchange server. Each time you synchronize, ActiveSync compares the changes you made on your CK60 and desktop or server and updates both computers with the latest information. For information on using ActiveSync, see *ActiveSync Help* on the desktop.

You can switch to any program by tapping it on the **Start** menu.

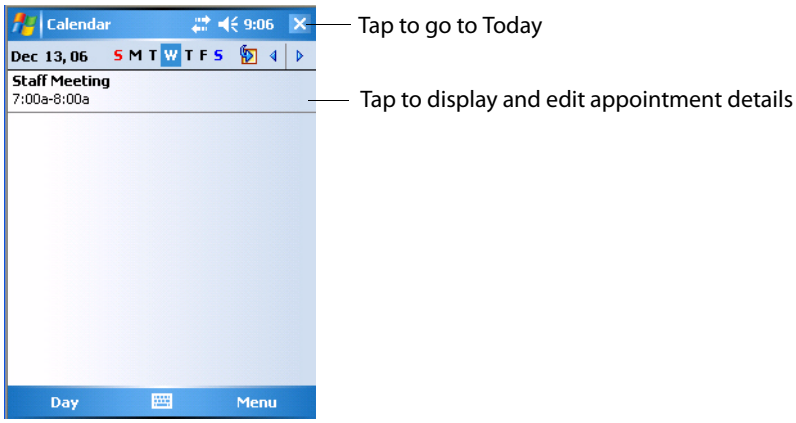
Calendar: Scheduling Appointments and Meetings

To switch to Calendar on the CK60, tap **Start** > **Calendar**.

Use Calendar to schedule appointments, including meetings and other events. You can check your appointments in one of several views (Day, Week, Month, Year, and Agenda) and set Calendar to remind you of appointments with a sound or other method.

Appointments for the day can display on the Today screen.

If you use Outlook on your desktop, you can synchronize appointments between your CK60 and desktop.



Synchronizing Calendar

Calendar items stored on your CK60 can be synchronized with calendar items on your desktop or Microsoft Exchange Server. (Note that you can only synchronize information directly with an Exchange Server if your company is running Microsoft Mobile Information Server 2002 or later.) Calendar synchronization is automatically selected in ActiveSync.

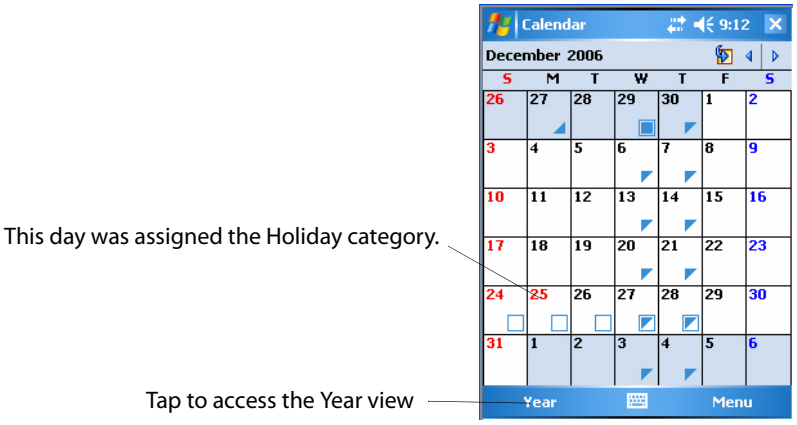
Calendar items entered on one computer are copied to the other during synchronization. Handwritten notes and drawings are saved as metafiles (pictures).

For information on synchronization, see *ActiveSync Help* on the desktop.

Why Use Categories in the Calendar?

Use categories to group related tasks, contacts, and appointments. Then, use these groupings to quickly display only the information you want. For example, you can easily share your CK60 with another by assigning your appointments to a category with a special project's name. You can then use this category to filter Calendar and only display appointments for that project.

Note: In Month View, the day of an appointment assigned to the Holiday category appears in red.


Calendar
9:12
December 2006
S M T W T F S
26 27 28 29 30 1 2
3 4 5 6 7 8 9
10 11 12 13 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30
31 1 2 3 4 5 6
Year
Menu
This day was assigned the Holiday category.
Tap to access the Year view

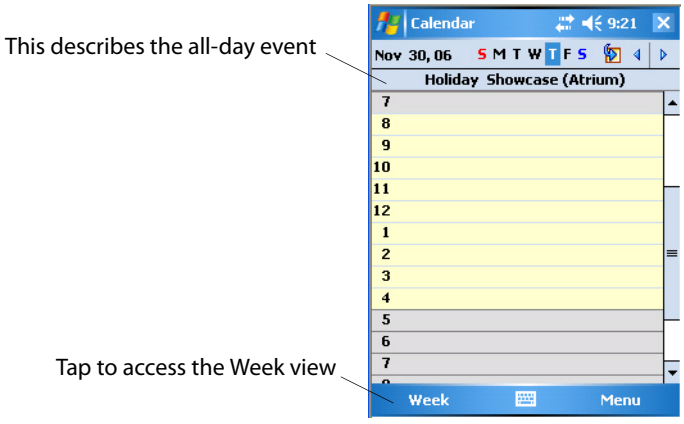
What's an All Day Event?

An appointment can either be a normal appointment or an all-day event, which lasts the full day or spans many days. Examples include a trade show, a vacation, or a seminar. You can also use all day events to schedule an annual event, such as a birthday or anniversary. In this case, change the Status box to Free (you may need to scroll to see it) so that it does not show time as busy in your calendar. All day events do not occupy blocks of time in Calendar; they appear in banners at the top of the calendar.

Note: You cannot modify or create all-day events with attendees on the CK60. If you create all day events with attendees on your desktop, use ActiveSync to copy such events to the CK60, then view them in Calendar. For more information on copying files, see *ActiveSync Help*.

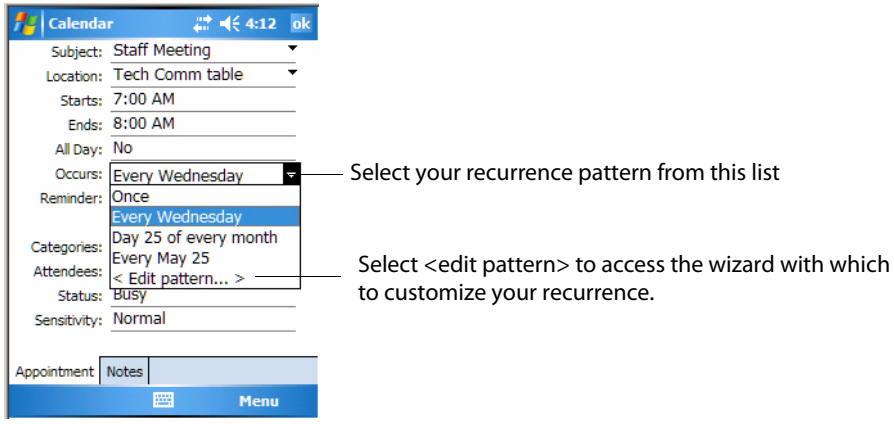
To use the CK60 to schedule an appointment with attendees lasting all day

- Set type to "Normal," then adjust the date and time appropriately.



What's a Recurrence Pattern?

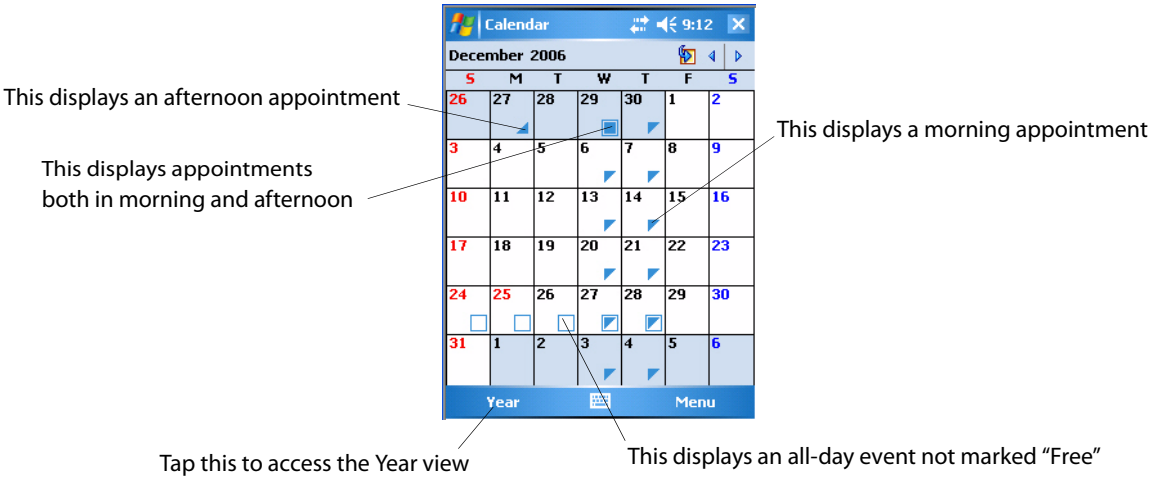
If you have an appointment or task that you do on a regular basis, such as a weekly team meeting or a monthly status report, enter the item once and set a recurrence pattern for it. If the default patterns in the list are not what you need, you can create your own pattern using the wizard.



Viewing Appointments

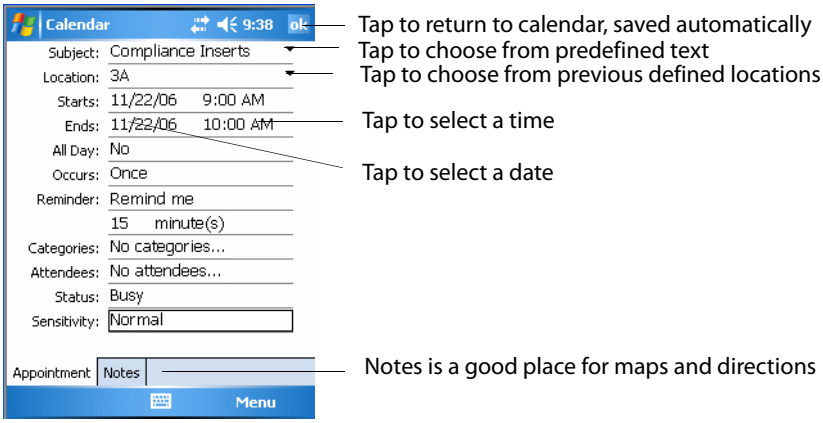
You can view appointments in one of several views (Agenda, Day, Week, Month, and Year). In Agenda view, upcoming appointments are displayed in bold. To see detailed appointment information in any view, tap the appointment. To see a list of available actions for an appointment, tap and hold the appointment. Tap **Start** > **Today** to see appointments for the day.

Month view displays symbols to indicate the types of appointments you have on a given day. An upward triangle indicates a morning appointment; a downward triangle indicates an afternoon appointment. If you have appointments in the morning and afternoon, a solid square is displayed. If you have an all day event not marked Free, a hollow square is displayed.


This displays an afternoon appointment
This displays appointments both in morning and afternoon
This displays a morning appointment
Tap this to access the Year view
This displays an all-day event not marked "Free"
Calendar
9:12
December 2006
S M T W T F S
Year
Menu

Creating or Changing an Appointment

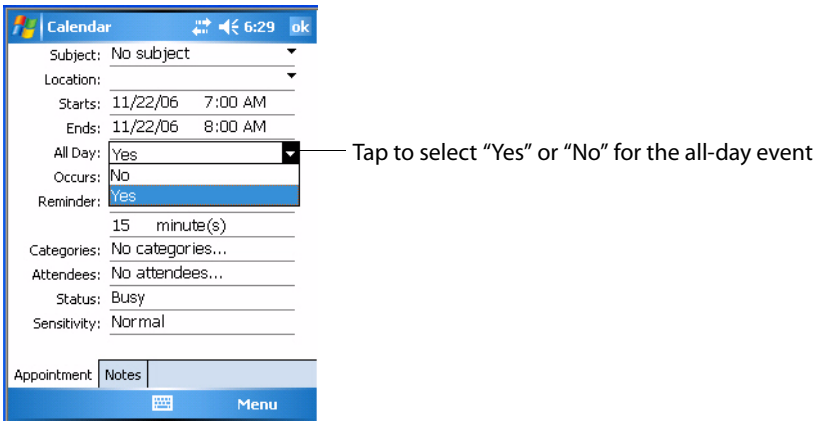
- To create an appointment, tap **Menu** > **New Appointment**.
- To select a new date from a pop-up calendar, tap the display date.
- To enter or select a new time, tap the display time. Enter the appointment details, and when finished, tap **ok** to return to the calendar.
- If you are working in Day view, tap and hold the time slot for the new appointment, then select **New Appointment** to have the time automatically entered for you.
- To change an appointment, tap it in the calendar, and then tap **Edit**.
- Change any appointment detail by tapping it and entering the new information. Tap the arrows to the right of the description and location boxes to choose from previous entries.
- When entering a time, you can type military and abbreviated time forms, such as 2300 (becomes 11:00 PM), 913pm (becomes 9:13 PM), 911 (becomes 9:11 AM), and 9p (becomes 9:00 PM).



To create an all-day event

1 Tap **Menu** > **New Appointment**.

2 Tap **All Day**, then select **Yes**.



To change an all-day event

1 Switch to **Day** or **Agenda**.

2 Tap the event listed at the top of the calendar.

3 Tap **Edit**.

4 Change any appointment detail by tapping it and entering the new information.

You cannot modify or create all day events with attendees on the CK60. If you create all-day events with attendees on your desktop, use ActiveSync to copy such events to the CK60. Then, view them in Calendar. For more information on copying files, see *ActiveSync Help*.

To use the CK60 to schedule an appointment with attendees lasting all day

- Set type to **Normal**, then adjust date and time accordingly.

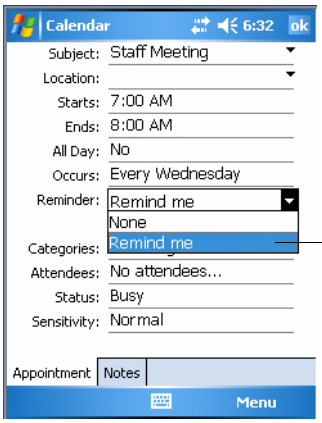
To set a reminder for an appointment in the calendar

1 Tap the appointment, then tap **Edit** to change the appointment.

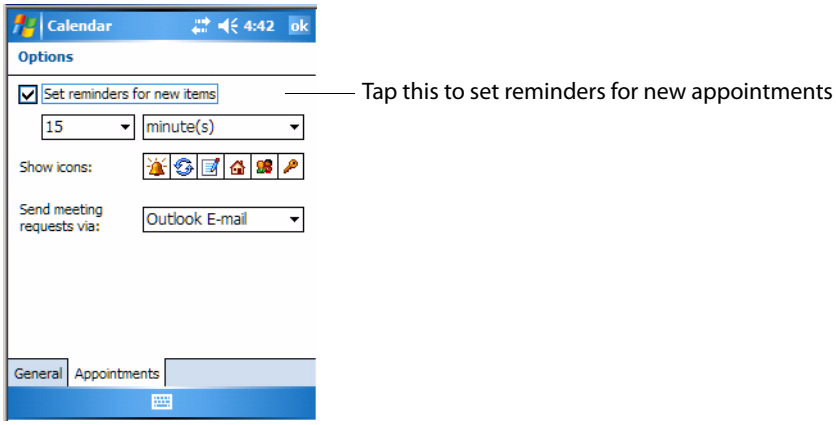
2 Tap **Reminder** and select **Remind me**.

3 To change how many minutes before the appointment you are reminded, tap the minutes displayed, then select the new minutes from a drop-down or enter the new minutes.

4 Tap **minutes** to change hours, days, or weeks.



Note: To automatically set a reminder for all new appointments, in the calendar, tap **Menu** > **Options** > the **Appointments** tab, check **Set reminders for new items**, then tap the number and timeframe options to change the information given.



To choose how you are reminded

- For example by a sound, tap **Start** > **Settings** > the **Personal** tab > the **Sounds & Notifications** icon.

Adding a Note to an Appointment

You can add written or typed notes and even recordings (if your CK60 supports recordings) to an appointment. This is a good place for maps, drawings, and other detailed information.

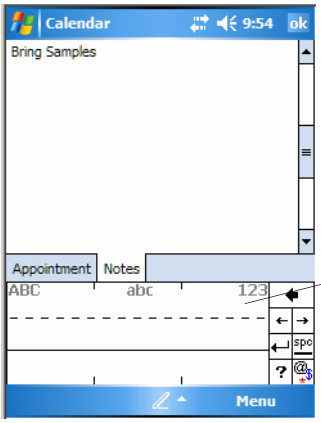
To edit an existing note

1 Tap the appointment in the calendar, tap **Edit**, then tap the **Notes** tab.

2 In the calendar, tap the appointment, then tap **Edit**.

3 Tap the **Notes** tab to enter notes.

4 For specific instructions, tap **Start** > **Help**, then select a topic.

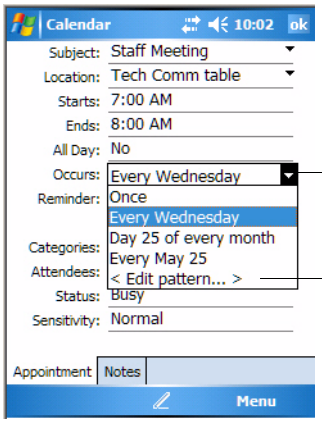


Use your stylus to write or draw information here

To make an appointment recurring

1 In the calendar, tap the appointment, then tap **Edit**.

2 Tap **Occurs** and select a pattern from the list. Or, to create a new pattern, tap **<Edit pattern...>**, and follow the steps in the wizard.



Select your recurrence from the drop-down list

Select <edit pattern> to customize your recurrence

To find an appointment assigned to a category

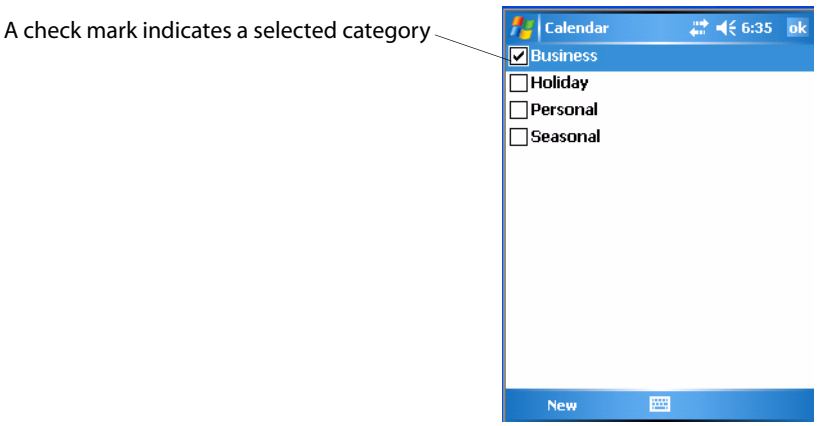
Tap **Menu** > **Filter**, then select the type of appointment that you want displayed. To show all appointments again, tap **Menu** > **Filter** > **All Appointments** to clear all categories.

1 In the calendar, tap the appointment, tap **Edit**, then tap **Categories**.

2 Check the categories to which you want to assign the appointment.

3 To create a new category, tap **New**, enter the category name, then tap **Done**. The new category is automatically checked in the list.

4 Tap **ok** to return to the appointment.



Sending a Meeting Request

Use Calendar to schedule meetings with people who use Outlook or Pocket Outlook. When attendees receive a meeting request, they can accept or decline the meeting. If they accept the request, the meeting is automatically added to their schedule, their response is sent back to you, and your calendar is updated.

Before you can send a meeting request, you must enter e-mail addresses in Contacts Help and set up Messaging to send and receive messages. For more information on sending and receiving meeting requests, open either the Calendar application or the Messaging application, tap **Start** > **Help**, then select a topic.

To sending the meeting request through a connection to an ISP or the network

1 Tap **Menu** > **Options** > the **Appointments** tab.

2 From the **Send** meeting request via drop-down list, tap the service to use to send the request.

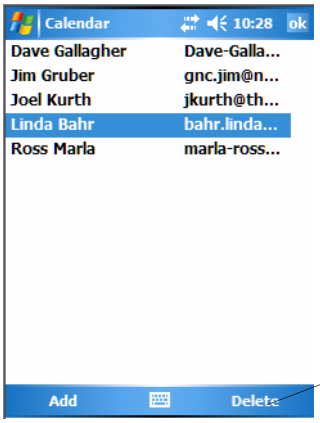
3 Tap to hold a timeslot in the calendar, then tap **New Appointment**.

4 Enter the meeting information, hide the onscreen keyboard, if needed, then tap **Attendees**. Only those contacts with e-mail addresses are displayed.

5 Select the contacts you want to invite, then tap **Add** to return to the list.

6 Repeat this procedure until you have everyone you want to invite to the meeting, then tap **ok**.

7 Messaging automatically creates a meeting request and sends it to the attendees the next time you synchronize with your desktop. Textual notes entered in the **Notes** tab (excluding writing) are also sent.



To finding an appointment

Note for future access, this is added to your Start menu in the Recent Programs area, via **Start** > **Search**.

1 Tap **Start** > **Programs** > the **Search** icon.

2 Enter the appointment name.

3 Tap the **Type** arrow and select "Calendar" from the drop-down list, then tap **Search**.

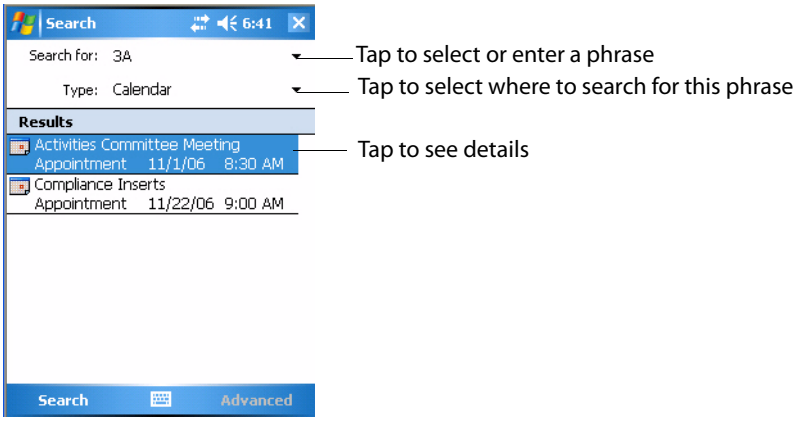
4 Tap the **Search for** drop-down arrow to select from a list of previously searched items or phrases.

To find an appointment assigned to a category

1 Tap **Menu** > **Filter**.

2 Select the type of appointment that you want displayed.

3 To show all appointments again, tap **Menu** > **Filter** > **All Appointments** to clear all categories.



Deleting an Appointment

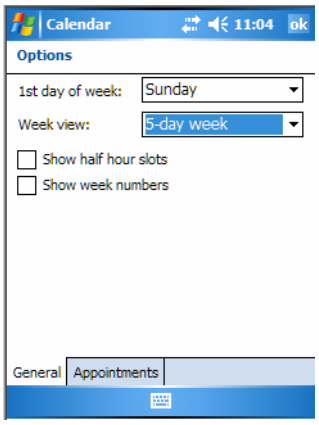
1 In the calendar, tap and hold the appointment.

2 On the pop-up menu, tap **Delete Appointment**. The next time you synchronize, the appointment is also deleted from the desktop.

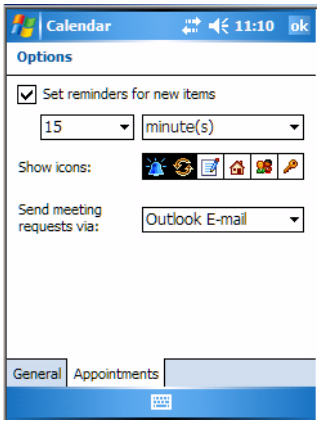
Changing Calendar Options

In the calendar, tap **Menu** > **Options**, tap either tap, make your changes, then tap **ok** to return to the calendar.

- Tap the **General** tab to change the calendar view.



- Tap the **Appointments** tab to select what **Show icons** appointment indicators should appear when you view appointment contents. Tap and hold an icon to see its name. Selected icons are in black.

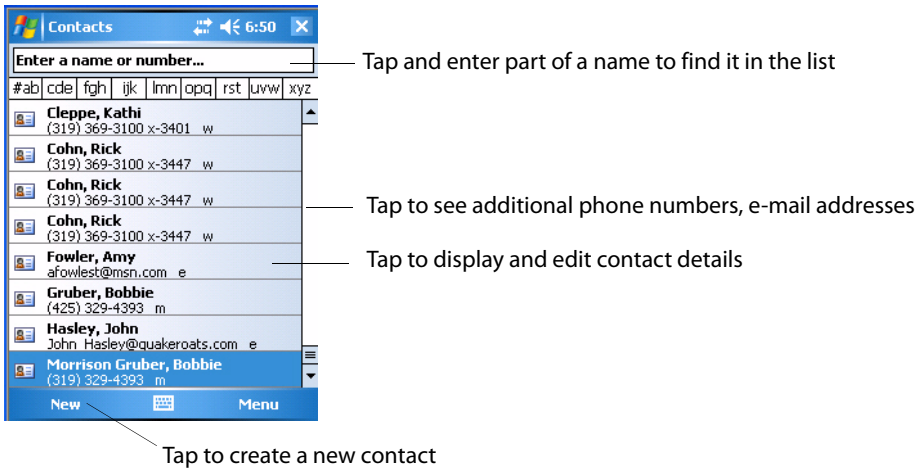


Contacts: Tracking Friends and Colleagues

To switch to Contacts on the CK60, tap **Start** > **Contacts**.

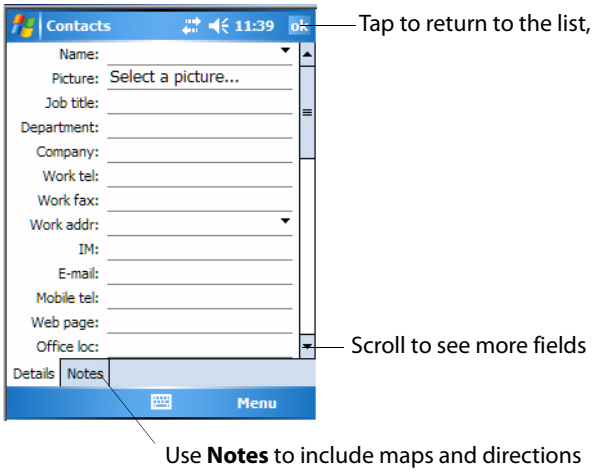
Contacts maintains a list of your friends and colleagues so that you can easily find the information you are looking for, whether you are at home or on the road. You can enter both personal and business information.

If you use Microsoft Outlook on your desktop, you can synchronize contacts between your CK60 and your desktop.



To create a contact

1. Tap **New**, then use the input panel to enter a name and other contact information. Scroll down to see all available fields.
2. Scroll to and tap **Categories**, then select a category from the list. In the contact list, you can display contacts by category.
3. Tap the **Notes** tab to add notes. You can enter text or draw. For information on creating notes, see "Notes: Capturing Thoughts and Ideas" on page 63.
4. When finished, tap **ok** to return to the contact list.



Synchronizing Contacts

Contacts stored on your CK60 can be synchronized with Outlook contacts stored on your desktop or with Mobile Information Server 2002 or later.

New items entered in one location are copied to the other during synchronization. Handwritten notes, drawings are saved as pictures when synchronizing with your desktop, but removed when synchronizing with servers.

For information on synchronization, see *ActiveSync Help* on the desktop.

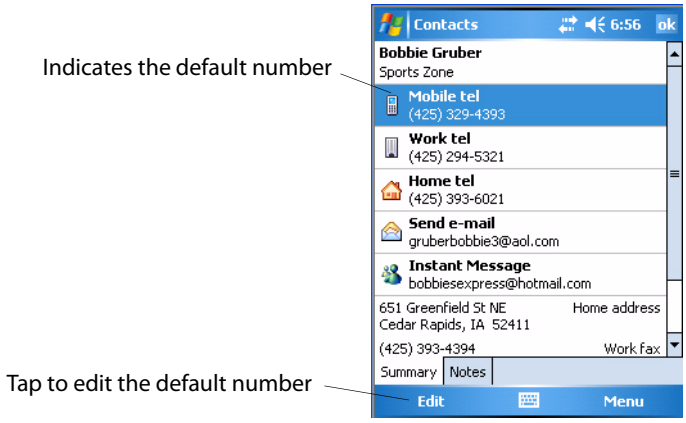
Viewing Contacts

The contact list displays the contact name and the first primary phone number or e-mail address specified for that contact. Contacts are ordered by name of contact or company.

Note: You can change the appearance of the Contacts list by tapping **Menu** > **Options**.

To view contacts

- Tap the default letter (**h**ome, **w**ork, **m**obile, or **e**-mail) to the right of the contact to see additional phone numbers and e-mail addresses.
- Use the up/down controls on your keypad to highlight a contact, then press the left/right controls on your keypad to change the default number, displayed as a letter to the right of the contact name. The default number is highlighted in the contact's summary, like the sample below.
- To see more contact information, tap the contact.
- To see a list of available actions for a contact via a pop-up menu, tap and hold the contact.
- To see a list of contacts employed by a specific company, tap **Menu** > **View By** > **Company**. Then, tap the desired company name.



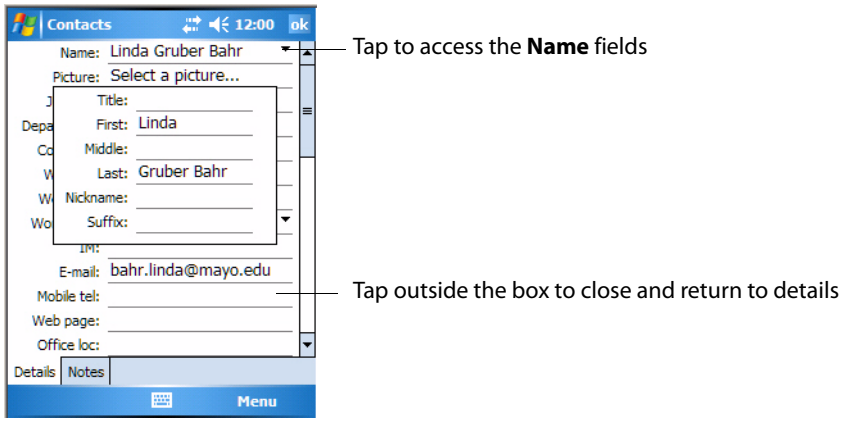
To create a contact

- Tap **New**. Tap the **Notes** tab to enter notes. When finished, tap **ok** to return to the contact list. New contacts are then added to the displayed category.

To change a contact

- Tap it in the contact list, then tap **Menu** > **Edit**. Tap **Menu** > **Undo** to undo any edits. When finished making changes, tap **ok** to return to the contact list.

Note: If you enter a name with more than two words, the middle word is recorded as a middle name. If your contact has a double first or last name, tap the **Name** arrow and enter the names in the proper box.

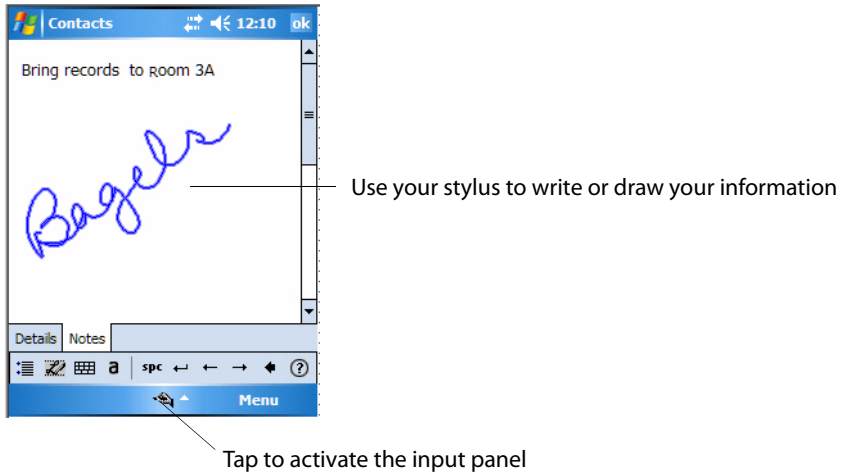


Adding a Note to a Contact

You can add written or typed notes and even recordings (if your CK60 supports recordings) to a contact. Notes are handy for maps and drawings.

To edit an existing note

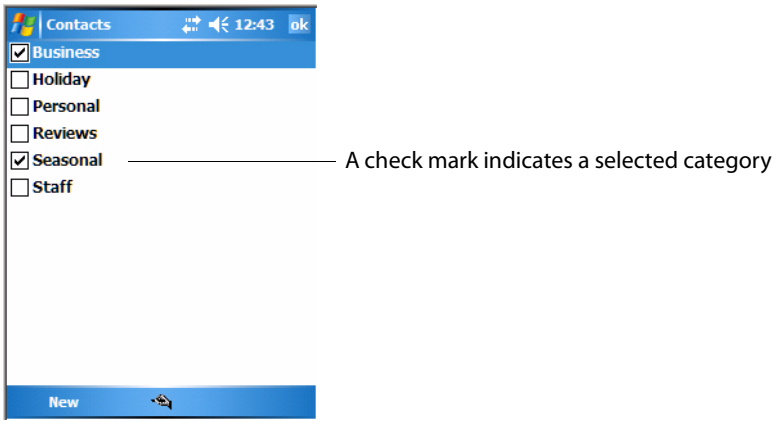
1. Tap the contact, tap **Menu** > **Edit**, then tap the **Notes** tab.
2. In the contact list, tap the contact.
3. Tap the **Notes** tab. For instructions, tap **Start** > **Help**, then select a topic.



To assign a contact to a category

1. In the contact list, tap the contact, and then tap **Menu** > **Edit**.
2. Scroll to, tap **Categories**, then check categories to assign to the contact.
3. To create a new category, tap **New**, enter the category name, then tap **Done**. The new category is automatically checked in the list.

4 Tap **ok** to return to the contacts.



To copy a contact

- Press and hold a contact for a pop-up menu, then select **Copy Contact**; or if a contact is already highlighted, tap **Menu** > **Copy Contact**.

To send a message to a contact

- Press and hold a contact for a pop-up menu, then select **Send E-mail**. To send an e-mail message, you must have an e-mail address configured for the contact.

Finding a Contact

Use any of the following methods to find a contact. To quickly move through a long list of contacts, tap one of the sets of letters displayed at the top to view contact names beginning with those letters.

Note: For future access, this is added to your Start menu in the Recent Programs area, via **Start** > **Search**.

To find a contact

1 Tap **Start** > **Programs** > the **Search** icon.

2 Enter the contact name.

3 Tap the **Type** arrow and select "Contacts" from the drop-down list.

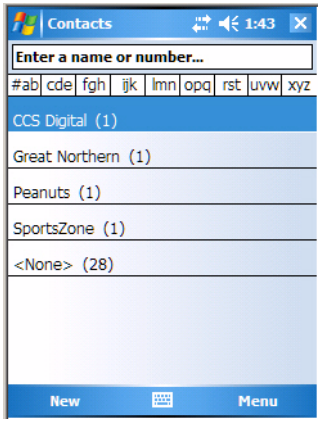
4 Tap **Search**.

5 Tap the **Search for** drop-down arrow to select from a list of previously searched items or phrases.

Other things you can do

- From Contacts, start typing a contact name until you see it displayed on the screen. To show all contacts again, tap the text box at the top of the screen and clear the text, or tap the arrow to the right of the text box.
- To find a contact assigned to a category, tap **Menu** > **Filter**, then select the type of contact to display. To show all contacts again, tap **Menu** > **Filter** > **All Contacts** to clear all categories.

- To view the names of companies for which your contacts work, in the contact list, tap **Menu** > **View By** > **Company**. The number of contacts that work for that company is displayed to the right of the company.

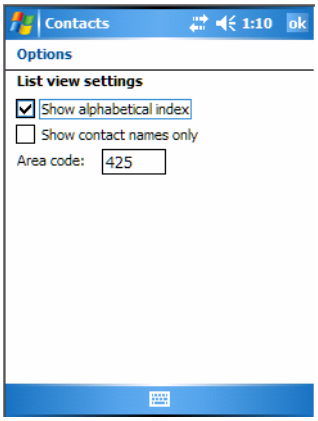


To delete a contact

- Press and hold a contact for a pop-up menu, select **Delete Contact**, then select **Yes**; or if a contact is already highlighted, tap **Menu** > **Delete Contact**, then select **Yes**.

To change contacts options

- In the contact list, tap **Menu** > **Options**, make your changes, then click **ok** to return to the Contacts list.



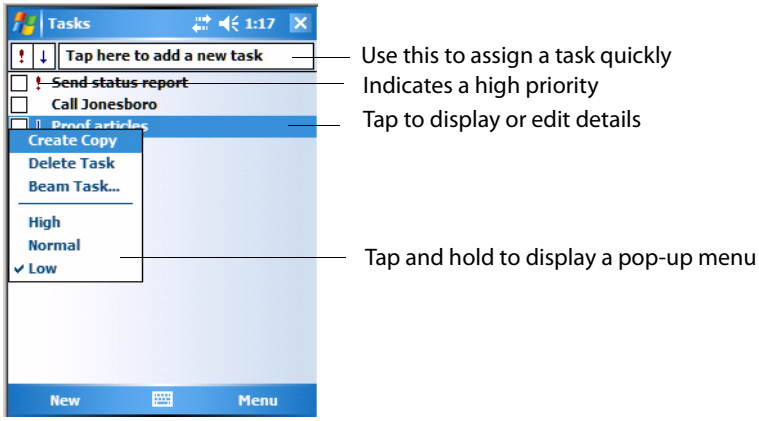
Tasks: Keeping a To Do List

To switch to Tasks on the CK60, tap **Start** > **Tasks**.

Use Tasks to keep track of what you have to do. A variety of task information can display on the Today screen. If you use Microsoft Outlook on your desktop, you can synchronize tasks between your CK60 and desktop.

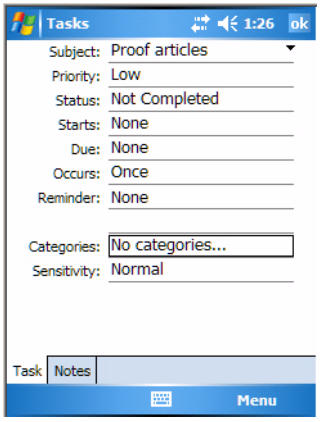
To change the way information is displayed

- Tap **Menu** > **Options**.



To quickly create a task with only a subject

- Tap **Tap here to add a new task** and enter your task information.
- To quickly create a task, enter text in **Tap here to add a new task** at the top of the screen. If you do not see this box, tap **Menu** > **Options**, then check **Show Tasks entry bar**.
- To create a task with detailed information, such as start and due dates, tap **Menu** > **New Task**. To enter notes, tap the **Notes** tab. You can enter a start date and due date or enter other information by first tapping the field. If the input panel is open, you need to hide it to see all available fields. You can enter text or draw. For information on creating notes, see "Notes: Capturing Thoughts and Ideas" on page 63
- To change a task, tap it in the task list, and then tap **Edit**. Using the onscreen keyboard, enter a description. To assign the task to a category, tap **Categories** and check categories from the list. In the task list, you can filter tasks by category. When finished, tap **ok** to return to the list.



To synchronize tasks

Tasks stored on the CK60 can synchronize with Microsoft Outlook on your desktop. Task synchronization is automatic in ActiveSync. New items entered on one computer are copied to the other during synchronization. Handwritten notes and drawings are saved as metafiles (pictures). For information, see *ActiveSync Help* on the desktop.

Notes: Capturing Thoughts and Ideas

Note for future access, this is added to your Start menu in the Recent Programs area, via **Start** > **Notes**.

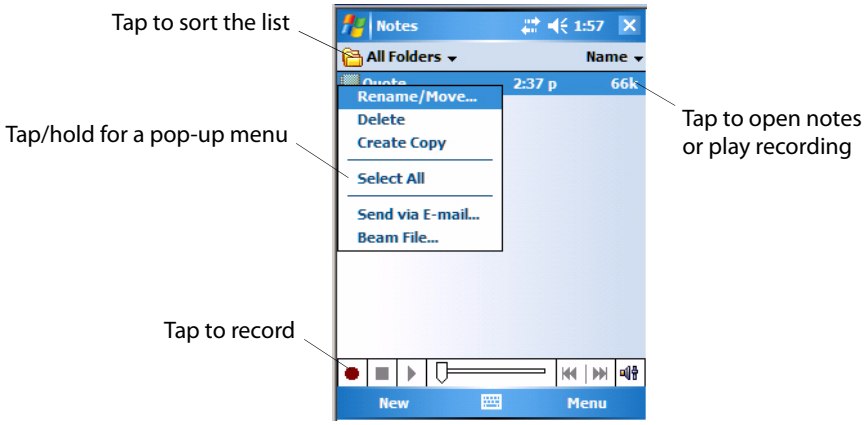
To switch to Notes on your CK60

- Tap **Start** > **Programs** > the **Notes** icon.

Notes helps you quickly capture your ideas, notes, and thoughts. You can create a note using written and typed text, drawings, and recordings. You can also share your notes with others through e-mail, infrared, and synchronization with your desktop.

To create documents with advanced formatting, such as bulleted lists and tabs,

- Use word processing software developed for your CK60, such as Word Mobile.



To create a note

- Tap **New**, then write, draw, type, or record your information.

For information about using the input panel, writing and drawing, and creating recordings, see "Basic Skills" on page 30.

Functions You Can Do In Notes

Function	Description
Writing	Using the stylus, write directly on the screen.
Drawing	Using the stylus, draw directly on the screen.
Typing	Using the input panel, enter typed text into the CK60. Do this by tapping keys on the onscreen keyboard or by using handwriting recognition software.
Recording	Create a stand-alone recording or embed a recording into a note.

To synchronize notes

Notes can synchronize between your desktop and CK60 either through notes synchronization or file synchronization. Notes synchronization synchronizes the notes on your CK60 with Outlook Notes on your desktop. File synchronization synchronizes all notes on the CK60 with the "\My Documents" folder for the CK60 on your desktop.

To synchronize your notes through notes synchronization, first select the Notes information type for synchronization in ActiveSync. The next time you synchronize, all notes in My Documents and its subfolder on your CK60 appear in Outlook Notes on your desktop. Notes that contain only text appear as regular notes in Outlook on your desktop, while notes containing written text or drawings appear in the device format. In addition, all notes in the Notes group in Outlook on the desktop appear in Notes on the CK60.

To synchronize your notes as files

1. In ActiveSync, select the Files information type for synchronization and clear the **Notes** information type.
2. When you select **Files**, the "\My Documents" folder for the CK60 is created on your desktop.
3. All .pwi files placed in the "\My Documents" folder on your CK60 and all .doc files placed in the "\My Documents" folder for the CK60 on your desktop are synchronized. Password-protected files cannot be synchronized.

ActiveSync converts documents during synchronization. For information on synchronization or file conversion, see *ActiveSync Help* on the desktop.

Note: When you delete or change an item on either your desktop or the CK60, the item is changed or deleted in the other location the next time you synchronize.

Note: If you synchronize your notes using file synchronization and then later decide to use notes synchronization, all of your notes are synchronized with Outlook on your desktop and no longer store in the "\My Documents" folder for the CK60.

Messaging: Sending and Receiving E-mail Messages

To switch to Messaging on your CK60, tap **Start** > **Messaging**.

You can receive Internet e-mail messages in Messaging. Internet e-mail messages are sent by using an address you receive from your Internet service provider (ISP) or your employer.

You can send and receive e-mail by synchronizing with your desktop, or by connecting to a Post Office Protocol 3 (POP3) or Internet Message Access Protocol 4 (IMAP4) mail server. You need to set up an e-mail account for each method that you use except for Microsoft ActiveSync, which is set up by default. The ActiveSync folder on your CK60 stores messages that you

send and receive through synchronization with a desktop. Account names appear as folders in the folder list (located on the left, under the navigation bar) in the Messaging message list.

With synchronization, messages are synchronized between the CK60 Inbox and the PC Inbox by using ActiveSync and Microsoft Exchange or Microsoft Outlook.

When connecting to a POP3 or IMAP4 server, you use a modem to connect to your Internet service provider (ISP), or a modem or Ethernet card to connect to the local area network the e-mail server is connected.

Synchronizing E-mail Messages

After selecting Messaging for synchronization in ActiveSync, e-mail messages are synchronized as part of the general synchronization process. During synchronization:

- Messages are copied from the Inbox folder on your desktop or the Microsoft Exchange server to the Inbox folder on your CK60. (Note that you can only synchronize information directly with an Exchange Server if your company is running Microsoft Mobile Information Server 2002 or later.) By default, you receive messages from the last three days only, the first 100 lines of each new message, and file attachments of less than 100 KB in size.
- Messages in the Outbox folder on your CK60 are transferred to Exchange or Outlook and then sent from those programs.
- The messages on the two computers are linked. When you delete a message on your CK60, it is deleted from your desktop the next time you synchronize.
- Messages in subfolders in other e-mail folders in Outlook are synchronized only if they were selected for synchronization in ActiveSync.

For information on initiating Messaging synchronization or changing synchronization settings, see *ActiveSync Help* on your desktop or tap **Start** > **Help**, then select a topic.

Managing E-mail Messages and Folders

Each e-mail account has its own folder hierarchy with five default folders: Deleted Items, Drafts, Inbox, Outbox, and Sent Items. The messages you receive and send through the mail account are stored in these folders. You can also create additional folders within each hierarchy. The Deleted Items folder contains messages that were deleted on the CK60. The behavior of the Deleted Items and Sent Items folders depends on the Inbox options you have chosen.

The behavior of the folders you create depends on whether you are using ActiveSync, POP3, or IMAP4.

- *If you use ActiveSync,* e-mail messages in the Inbox folder in Outlook automatically synchronize with your CK60. You can select to synchronize additional folders by designating them for ActiveSync. The folders you create and the messages you move are then mirrored on the server. For example, if you move two messages from the Inbox folder to a folder named Family, and you have designated Family for synchronization, the server creates a copy of the Family folder and copies the messages into that folder. You then read messages away from your desktop.
- *If you use POP3* and you move e-mail messages to a folder you created, the link is broken between the messages on the CK60 and their copies on the mail server. The next time you connect, the mail server sees that the messages are missing from the CK60 Inbox and deletes them from the server. This prevents you from having duplicate copies of a message, but it also means that you no longer have access to messages that you move to folders created from anywhere except the CK60.
- *If you use IMAP4*, the folders you create and the e-mail messages you move are mirrored on the server. Therefore, messages are available to you anytime you connect to your mail server, whether it is from your CK60 or desktop. This synchronization of folders occurs whenever you connect to your mail server, create new folders, or rename/delete folders when connected.

For all accounts except ActiveSync, you can access folder options by tapping **Menu** > **Tools** > **Manage Folders**.

Connecting to a Mail Server

In addition to synchronizing e-mail messages with your desktop, you can send and receive e-mail messages by connecting to an e-mail server using a modem or network card connected to your CK60. You need to set up a remote connection to a network or an ISP, and a connection to your e-mail server. For more information, see **"Remote Access (Modems)" on page 131**.

When you connect to the e-mail server, new messages are downloaded to the CK60 Inbox folder, messages in the CK60 Outbox folder are sent, and messages that were deleted on the e-mail server are removed from the CK60 Inbox folder.

Messages that you receive directly from an e-mail server are linked to your e-mail server rather than your desktop. When you delete a message on your CK60, it is also deleted from the e-mail server the next time you connect based on the settings selected in ActiveSync.

You can work online or offline. When working online, you read and respond to messages while connected to the e-mail server. Messages are sent as soon as you tap **Send**, which saves space on your CK60.

When working offline, once you have downloaded new message headers or partial messages, you can disconnect from the e-mail server and then decide which messages to download completely. The next time you connect,

Inbox downloads the complete messages you have marked for retrieval and sends the messages you have composed.

To set up a a POP3 or IMAP4 e-mail account

- Tap **Menu** > **Tools** > **Options** > **New Account**. Follow instructions in the E-mail Setup Wizard.

To change options for an account

- Tap **Menu** > **Tools** > **Options** > the name of the account, and follow the instructions on the screen.

To delete an account

- Tap **Menu** > **Tools** > **Options**, tap and hold the name of the account, and then tap **Delete**.

Note: You can set up several e-mail accounts, including ActiveSync.

Downloading Messages from the Server

Note that receiving entire messages consumes storage memory. The size column in the message list displays the local and server size of a message. Even when a message is downloaded fully, these sizes may differ because the size of a message can vary between the server and the CK60.

To download messages from the server

1. Tap **Menu** > **Go To** and ensure that the account you want to use is selected (marked by a bullet.)
2. The messages on your CK60 and e-mail server are synchronized: new messages are downloaded to the CK60 Inbox folder, messages in the CK60 Outbox folder are sent, and messages that were deleted from the server are removed from the CK60 Inbox. Tap a message in the message list to open it.
3. If you read a message and decide that you need the full copy, tap **Menu** > **Download Message** while in the message window. If you are in the message list, tap and hold the message, and then tap **Download Message**. This also downloads message attachments if you selected those options when you set up the e-mail account. You can also choose to download full copies of messages by default.
4. When finished, close Messaging.

Composing and Sending Messages

To compose a message, do the following. Depending on the e-mail address options that you select, you can use a directory service in addition to your contact list to verify names.

To compose and send messages

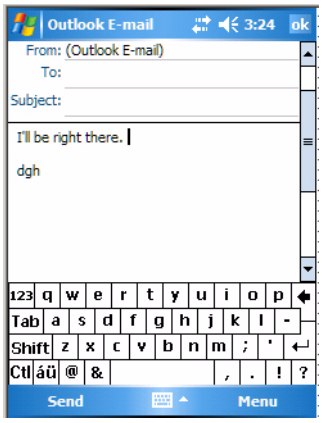
1. In the message list, tap **New**.
2. To select an account, tap the **From** list, select the desired e-mail account.

3 Enter the e-mail address of one or more recipients, separate them with semicolons. Tap **To** for Contacts information.

4 Enter your message. To quickly add common messages, tap **Menu** > **My Text**, select a desired message.

5 To check spelling, tap **Menu** > **Spell Check**.

6 Tap **Send**. If you are working offline, the message is moved to the Outbox folder and is sent the next time you connect.



Companion Programs

The companion programs consist of Word Mobile, Excel Mobile, PowerPoint Mobile, and Windows Media Player.

To switch to a companion program on your CK60

- Tap **Start** > **Programs**, then tap the program name.

Word Mobile

Word Mobile works with Microsoft Word on your desktop to give you access to copies of your documents. You can create new documents on your CK60, or you can copy documents from your desktop to your CK60. Synchronize documents between your desktop and your CK60 to have up-to-date content in both locations.

Creating a Document

For future use, this is added to your Start menu in the Recent Programs area, via **Start** > **Word Mobile**.

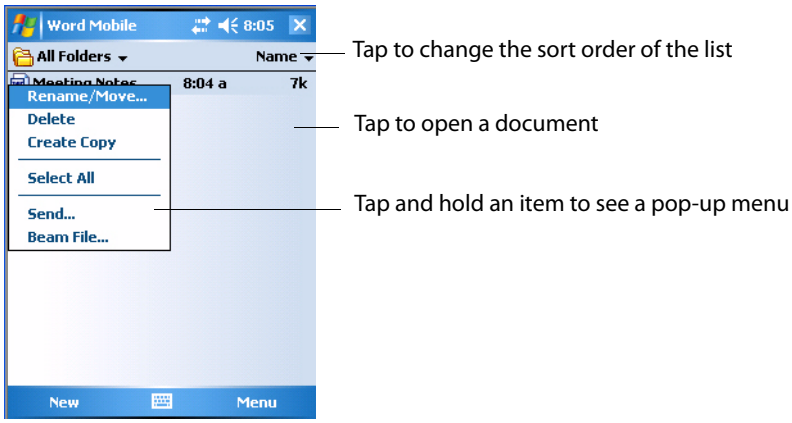
Use Word Mobile to create documents, such as letters or meeting minutes.

To create a new file

- Tap **Start** > **Programs** > the **Word Mobile** icon > **New**. You get either a blank document or a template, depending on what you have selected under **Menu** > **Options**.

You can open only one document at a time; when you open a second document, you have to save the first. You can save a document you create or edit in formats such as Word (.doc), Rich Text Format (.rtf), and Plain Text (.txt).

Word Mobile contains a list of files stored on your CK60. Tap a file in the list to open it. To delete, make copies of, and send files, tap and hold a file in the list, then, select the action on the pop-up menu.

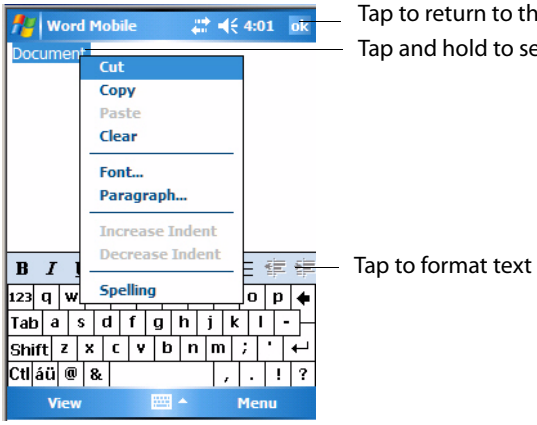


- You can enter information in Word Mobile in by typing or writing. Each mode has its own toolbar, which you can show and hide by tapping the **Input Panel** icon in the center of the command bar.
- You can change the zoom magnification by tapping **View** > **Zoom**, then select the percentage you want. Select a higher percentage to enter text and a lower one to see more of your document.
- If you are opening a Word document created on a desktop, you may select **View** > **Wrap to Window** so that you can see the entire document.
- To check spelling, select text, then tap **Menu** > **Tools** > **Spelling**. To use new documents as templates, move the documents to the Templates folder.
- You can insert the date in a document. Tap and hold anywhere on the document, then tap **Insert Date** from the pop-up menu.

Typing Mode

Using the input panel, enter typed text into the document. For more information on entering typed text, see "Basic Skills" on page 30.

To format existing text and to edit text, first select the text. You can select text as you do in a Word document, using your stylus instead of the mouse to drag through the text you want to select. You can search a document to find text by tapping **Menu** > **Edit** > **Find/Replace**.



Writing Mode

In writing mode, use your stylus to write directly on the screen. Ruled lines are displayed as a guide, and the zoom magnification is greater than in typing mode to allow you to write more easily. For more information on writing and selecting writing, see "Basic Skills" on page 30.

Written words are converted to graphics (metafiles) when a Pocket Word document is converted to a Word document on your desktop.

Synchronizing Word Mobile Documents

Word Mobile documents can be synchronized with Word documents on your desktop.

To synchronize files

1. First select the **Files** information type for synchronization in ActiveSync.
2. When you select **Files**, the "\My Documents" folder for the CK60 is created on your desktop.
3. Place all files you want to synchronize with the CK60 in this folder. Password-protected files cannot be synchronized.

All Word Mobile files stored in "\My Documents" and its subfolders are synchronized with the desktop. ActiveSync converts documents during synchronization.

For information on synchronization or file conversion, see *ActiveSync Help* on the desktop. When you delete a file on either your desktop or your CK60, the file is deleted in the other location the next time you synchronize.

Excel Mobile

You can create and edit workbooks and templates in Excel Mobile as you do in Microsoft Excel on your desktop. Excel Mobile workbooks are usually saved in the .XLS format.

When you close a workbook, it is automatically named and placed in the Excel Mobile workbook list.

Creating a Workbook

For future use, this is added to your Start menu in the Recent Programs area, via **Start** > **Excel Mobile**.

Use Excel Mobile to create workbooks, expense reports, etc.

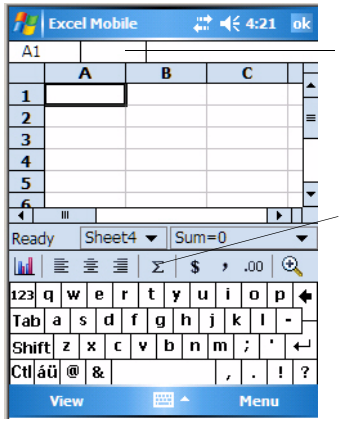
To create a new file

- Tap **Start** > **Programs** > the **Excel Mobile** icon > **New** to access a blank workbook. Or, if a template was selected under **Menu** > **Options**, a template appears with appropriate text and formatting already provided.

You open one workbook at a time; when you open a second workbook, save the first. You can save a workbook you create or edit in a variety of formats, including Excel (.xls). You can also save a workbook as a template by moving the workbook to the Templates folder.

Excel Mobile contains a list of the files stored on your CK60. Tap a file in the list to open it. To delete, make copies of, and send files, tap and hold a file in the list, then select an action from the pop-up menu.

Excel Mobile provides fundamental spreadsheet tools, such as formulas, functions, sorting, and filtering. Tap **View** > **Toolbar** to see the toolbar.



Tips for Working in Excel Mobile

Note the following when working in large worksheets in Excel Mobile:

- View in full-screen mode to see as much of your worksheet as possible. Tap **View** > **Full Screen**. To exit full-screen mode, tap **Restore**.
- Tap **View** > **Zoom** and select a percentage to easily read the worksheet.
- Show and hide window elements. Tap **View** > **Show**, then tap the elements you want to show or hide.
- Freeze panes on a worksheet. First select the cell where to freeze panes. Tap **View** > **Freeze Panes**. You might want to freeze the top and leftmost panes in a worksheet to keep row and column labels visible as you scroll through a sheet. Tap **View** > **Unfreeze Panes** to undo this process.
- Split panes to view different areas of a large worksheet. Tap **View** > **Split**. Then drag the split bar to where you want it. To remove the split, tap **View** > **Remove Split**.

For information on using Excel Mobile, tap **Start** > **Help**, select a topic.

PowerPoint Mobile

For future use, this is added to your Start menu in the Recent Programs area, via **Start** > **PowerPoint Mobile**.

With PowerPoint Mobile on your CK60, you can open and view slide show presentations created on your PC. Whether the presentation is opened from an e-mail message, downloaded from a file share or the Internet, copied to the CK60 via a storage card, or obtained by synchronizing with your PC, slide shows created in *.ppt and *.pps format with PowerPoint 97 and later can be viewed on your CK60.

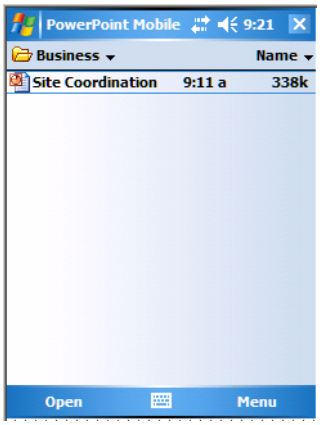
Many presentation elements built into the slide shows such as slide transitions and animations will play back on the device. If the presentation is set up as a timed slide show, one slide will advance to the next automatically. Links to URLs are also supported.

For more information on PowerPoint Mobile while you are in this application, tap **Start** > **Help**, then select a topic.

To start a slide show presentation

1 Tap **Start** > **Programs** > the **PowerPoint Mobile** icon.

2 In the presentation list, tap the slide show you want to view.

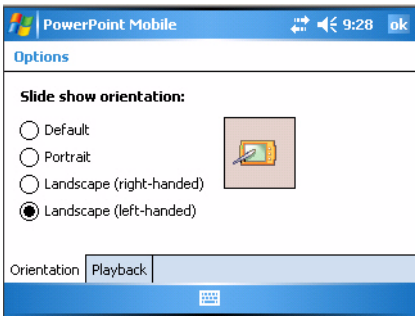


3 Tap the current slide to advance to the next slide. If the presentation is set up as a timed slide show, slides will advance automatically.

4 To view a PowerPoint Mobile presentation in portrait, or right-handed or left-handed landscape orientations, tap the slide icon *(in the bottom, left corner of the following illustration)* for a pop-up menu.

5 Tap **Show Options** > the **Orientation** tab, then select an orientation.

6 Tap **Default** to view the presentation in the orientation that best fits the size and shape of the screen.

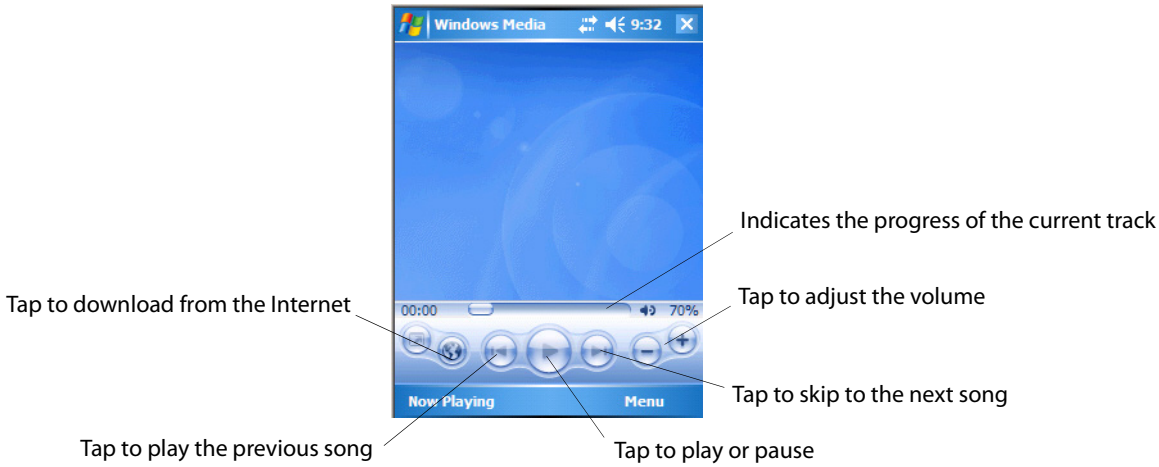


Windows Media

Windows Media

Tap **Start** > **Windows Media** to switch to this application. For information about using Windows Media, tap **Start** > **Help**, then select a topic.

Use Windows Media Player on your desktop to copy digital audio and video files to your CK60. You can play Windows Media and MP3 files on your Windows Mobile.



Internet Explorer Mobile

Windows Media

Tap **Start** > **Internet Explorer** to switch to Internet Explorer Mobile.

Use Internet Explorer Mobile to view Web or WAP pages in these ways:

- During synchronization, download favorite links and mobile favorites stored in the Mobile Favorites subfolder in desktop Internet Explorer.
- Connect to an ISP or network and browse the Web. Create the connection first as described in "Remote Access (Modems)" on page 131.

When connected to an ISP or network, you can also download files and programs from the Internet or intranet.

Mobile Favorites

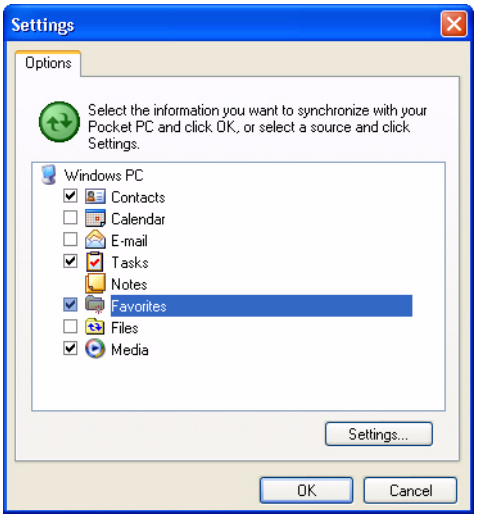
Only items stored in the Mobile Favorites subfolder in the "\Favorites" folder in Internet Explorer on your desktop are synchronized with your CK60. This folder was created when you installed ActiveSync.

Favorite Links

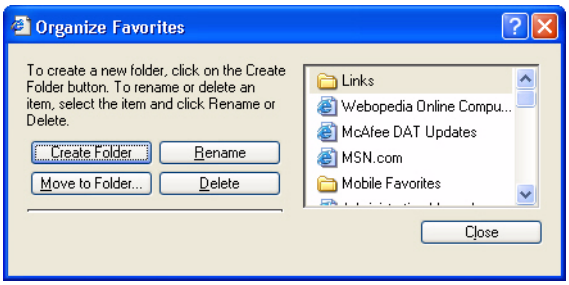
During synchronization, the Mobile Favorites folder links on your desktop is synchronized with Internet Explorer Mobile on your CK60. Both are updated with changes made to either list when you synchronize. Unless the link is marked as a mobile favorite, only the link is downloaded to your CK60. Connect to your ISP or network to view the content.

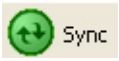
To create favorites

1 In Microsoft ActiveSync on your desktop, click **Tools** > **Options**, and select "Favorites" from the Windows PC list. For more information on using ActiveSync, see *ActiveSync Help* on the desktop.



2 In Internet Explorer on your desktop, save or move favorite links to the Mobile Favorites subfolder in the Favorites list via **Favorites** > **Organize Favorites**. For more information on using Internet Explorer, see *Internet Explorer Help* on the desktop.





3 Connect your CK60 to your desktop. If synchronization does not start automatically, in ActiveSync on your desktop, click **Sync**.

Mobile Favorites

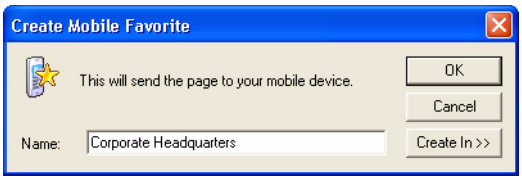
If using Microsoft Internet Explorer 5.0 or later on your desktop, you can download mobile favorites to your CK60. Synchronizing mobile favorites downloads Web content to your CK60 so that you can view pages while you are disconnected from your ISP and desktop.

Use the Internet Explorer plug-in installed with ActiveSync to create mobile favorites quickly.

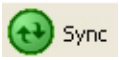
To create a mobile favorite

1 In Microsoft ActiveSync on your desktop, click **Tools** > **Options**, and select "Favorites" from the Windows PC list. For more information on using ActiveSync, see *ActiveSync Help* on the desktop.

2 In Internet Explorer 5.0 or greater on your desktop, browse to the page you want to view offline, then click **Tools** > **Create Mobile Favorite**. To change the link name, enter a new name in the **Name** box.



3 To save the link in a subfolder of Mobile Favorites, click **Create In** and select the desired subfolder. Click **OK** for the desktop Internet Explorer to download the latest version of the page to your CK60.

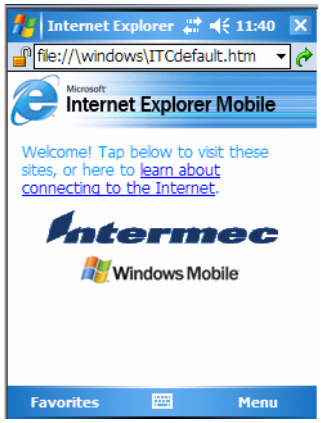


4 Connect your CK60 to your desktop. If synchronization does not start automatically, in ActiveSync on your desktop, click **Sync**.

Mobile favorites take up storage memory on your CK60. To minimize the amount of memory used, in the settings for the Favorites information, type in ActiveSync options, turn off pictures and sounds, or stop downloading some mobile favorites to the CK60. For information, see *ActiveSync Help*.

Using Internet Explorer Mobile

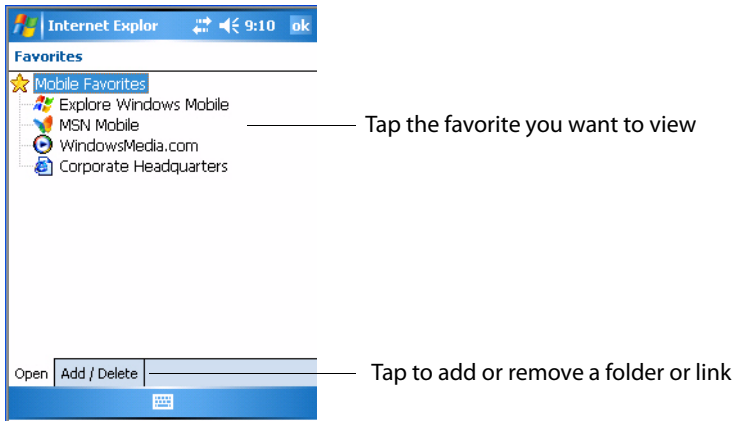
You can use Internet Explorer Mobile to browse mobile favorites and channels that were downloaded to your CK60 without connecting to the Internet. You can also connect to the Internet through an ISP or a network connection and browse the Web.



To view Mobile Favorites and channels

1 Tap **Favorites**, or **Menu** > **Favorites** to display your list of favorites.

2 Tap the page you want to view.



3 The page that was downloaded the last time you synchronized with your desktop opens. If the page is not on your CK60, the favorite is dimmed. Synchronize with your desktop again to download the page to your CK60, or connect to the Internet to view the page.

To browse the Internet

1 Set up a connection to your ISP or corporate network using Connections, as described in "Remote Access (Modems)" on page 131.

2 To connect and start browsing, tap **Favorites**, or **Menu** > **Favorites**, then tap the favorite to view; or in the address bar that appears at the top of the screen, enter the Web address you want to visit and then tap **Enter**. Tap the arrow to choose from previously entered addresses.

3 Configuring the Computer

There are multiple ways to get an application to your CK60 Mobile Computer; like there are ways to package the application for delivery.

Note: Desktop icons and settings applet icons are shown to the left. Any place that **Start** is mentioned, tap the following Windows icon in the top, left corner of your CK60 desktop.

Developing Applications for the Computer

CK60s run applications programmed in Microsoft Visual Studios 2005. Use this chapter to understand what you need to develop a new application for the CK60.

Note: Microsoft eMbedded Visual C++ 4.0 may be used, but some features are not available.

To develop applications for your CK60, use the Resource Kits in the Intermec Developer Library (IDL). Download the IDL from the Intermec web site at **www.intermec.com/idl**. Contact your Intermec representative for more information.

You need the following hardware and software components to use the resource kits:

- Pentium desktop, 400 MHz or higher
- Windows 2000 (Service Pack 2 or later) or Windows XP (Home, Professional, or Server)
- For native and managed development, Microsoft Visual Studio 2005
- 128 MB RAM (196 MB recommended)
- 360 MB hard drive space for minimum installation (720 MB for complete)
- CD-ROM drive compatible with multimedia desktop specification
- VGA or higher-resolution monitor (Super VGA recommended)
- Microsoft Mouse or compatible pointing device

Packaging Applications for the Computer

Use any of these methods to package applications for installation:

- You could package an application as a cabinet (CAB) file. *Recommended*
- For simple applications, the application itself may be the file to deliver.
- It could be a directory structure that contains the application, supporting files like ActiveX controls, DLLs, images, sound files, and data files.

Consider any of the following when choosing a location into which to store your application:

- In the basic CK60, there are two built-in storage options: the Object Store and the Flash File Store. The Object Store is a Disk on Chip (DOC) Flash that looks like a disk. The Flash File Store is an area of storage which is embedded in a section of the system's FLASH memory. This storage area is *not* erased during a cold-boot. It will, however, be erased during the clean boot process.

- If the optional Secure Digital storage card is in the system, then consider this card the primary location for placing an applications install files. This storage card creates the "\Storage Card" folder.
- Use the small nonvolatile Flash File Store region to hold CAB files that rebuild the system at cold-boot or install applications from a CAB file *into* the Flash File Store so they are "ready-to-run" when a cold-boot or clean-boot is performed. Since the FLASH in the system has a limited number of write cycles, do not use the Flash File Store for excessive writing purposes; however, reading is okay.

CAB files *(short form of "cabinet" files)* are compressed folders as defined by Microsoft. A "cabinet" file is a single file, usually suffixed with .cab, that stores compressed files in a file library. A compressed file can be spread over several cabinet files. During installation, the setup application decompresses the files stored in a cabinet and copies them to the user's system. Intermec recommends using CAB files to install your applications. The CK60 uses standard Windows Mobile CAB files and does install third-party CAB files.

For the CK60, CAB files register DLLs, create shortcuts, modify registry entries, and run custom setup programs. Tap a CAB file to extract that file or place the CAB file on one of the approved storage devices in the "\CabFiles" folder, then perform a warm-boot on the CK60. There are two methods available to extract a CAB file:

- Tap a CAB file to extract it. With this method, the CAB file is automatically deleted when the extraction process is successful, *unless* the CAB file is set with the read-only attribute.
- Use the AUTOCAB method to extract all files when a cold-boot or clean-boot is performed on the CK60. This method is in the IDL via the Intermec web site.

Installing Applications on the Computer

Consider any of these options to get the package to the preferred location on your CK60:

- Microsoft ActiveSync (**page 82**)
- Secure Digital storage cards *(**page 83**)*
- Wavelink Avalanche (**page 83**)
- SmartSystems™ Console (**page 84**)

Using Microsoft ActiveSync

You can use Microsoft ActiveSync to establish a connection between your desktop and the CK60. Microsoft ActiveSync transfers files, synchronizes files, performs remote debugging, and other device management activities.

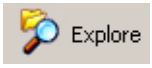
See Chapter 2, "Windows Mobile" for information about the Microsoft ActiveSync application as provided by Microsoft Corporation.

This can be a serial or a USB Microsoft ActiveSync connection. Files can be copied using Windows Explorer on a desktop or a laptop computer. This is usually good when updating few CK60s.

These instructions assume that Microsoft ActiveSync was installed onto your desktop and is up and running. If not, go to Chapter 2, "Windows Mobile" for an URL from which to download the latest application.

1 Connect your CK60 to your desktop using a USB or serial cable. You may have to detach, then reattach the cable to "wake" the connection.

2 Wait for a "Connected" message to appear in the Microsoft ActiveSync application to signal a connection to the CK60. If necessary, select **File** > **Get Connected** to initiate a connection or detach, then reattach the USB or serial cable.



3 Click **Explore** to access the "\Mobile Device" folder on your unit.

4 From your desktop, select **Start** > **Windows Explorer**, then browse the "C:\Intermec\CK60 Mgmt Tools\CabFiles" path for any CAB files needed for your CK60. Select the appropriate file, right-click the file for a pop-up menu, then select **Copy**.

5 Within the "\My Windows Mobile-Based Device" directory, go to the directory where you want the files located on the CK60, do a right-click for a pop-up menu, then select **Paste**.

6 When all of the files are pasted, perform a warm-boot on the CK60. When the computer reboots, wait for the LED on the top left of your keypad to stop blinking. Tap **Start** > **Programs** > the **File Explorer** icon to locate the newly copied executable files, then tap these files to activate their utilities.

Using a Storage Card

If you have a Secure Digital storage card for your CK60, this is the best place for you to installation applications.

1 If you are using a Secure Digital card reader, suspend the CK60, remove its Secure Digital storage card, and place it in the reader. For help, see "Using the Secure Digital Card" on page 19.

2 Copy your application file to the Secure Digital card. If you are using Microsoft ActiveSync to copy the files to the Secure Digital card, place the application in the "\Storage Card" folder on the CK60.

3 If using a Secure Digital card reader, insert the Secure Digital card back into the CK60.

4 Navigate to the "\Storage Card" folder and run your application. After your application is installed, you can run it from the Programs menu.

Using Wavelink Avalanche

You can use the Wavelink Avalanche device management system to install applications on all of your wireless CK60s.

The wireless CK60 ships with the Avalanche Enabler already loaded on it. The Avalanche Enabler is configured to activate automatically (typically on a warm boot).

Note: If you manually activate the Avalanche Enabler on the CK60, you may be prompted for a password when you exit the Avalanche Enabler. The default password is `leave`.

When the Avalanche Enabler is activated, the CK60 attempts to connect to the Avalanche Agent. When the CK60 connects to the Agent, the Agent determines whether an update is available and immediately starts the software upgrade, file transfer, or configuration update.

To use Avalanche to remotely manage the CK60

1 Use the Avalanche Management Console to install software packages and updates for the CK60. For help using the console, see the online help.

2 Schedule the CK60 updates or manually initiate an update using the Avalanche Management Console.

For information on using Wavelink Avalanche, contact your local Intermec representative or visit the Wavelink web site at **www.wavelink.com**.

Using the SmartSystems Console

You can use the SmartSystems Console to drag-and-drop Intermec applications onto your CK60s. The CK60 ships with the SmartSystems client loaded on it. The console is part of SmartSystems Foundation and is available from the Intermec web site. To download SmartSystems Foundation, go to **www.intermec.com/idl** and open the Device Management page.

To use SmartSystems Console to install an application

1. Download your application file from the Intermec web site and unzip it on your desktop.
2. From the SmartSystems Console, drag-and-drop the application onto each CK60 discovered in your network.

For information on using the SmartSystems Console, see its online help.

Launching Your Application Automatically

Note: This describes the system component startup for Intermec provided components only. It does not describe the bootstrap loader process. It only describes the component installation process provided by Windows Mobile. It is assumed that you understand the Microsoft Mobile startup procedures and are familiar with how Microsoft components start up.

You can configure the various media used in the Windows Mobile system with a folder name and can change the media in the registry of the system. Many of the startup components rely on folder names to locate information files, applications, or other related data.

The registry keys used by FolderCopy and other startup components to retrieve the folder names are as follows:

Flash File Store
[HKLM\Drivers\BuiltIn\FlshDrv]
"FolderName"="Flash File Store"

SD Card (Storage Card)
[HKLM\System\StorageManager\Profiles\SDMemory]
"Folder"="Storage Card"

Disk On Chip
[HKLM\System\StorageManager\Profiles\TRUEFFS_DOC]
"Folder"="DiskOnChip"

During normal Windows Mobile system startup, there are Intermec-specific and non-Intermec components that require an orderly start to properly function. These non-Intermec components may also need to start themselves so the Windows Mobile device can function properly. Since there are possible configurations that come from using one or more optional built-in peripheral devices, the platform components starting on the next page are required to manage startup.

PreShell

PreShell (PreShell.exe) is launched prior to the Microsoft Shell and must execute a SignalStartup call before the Microsoft Shell launches.

PreShell searches the "\Flash File Store\SYSTEM" directory for an executable of the same name. If one exists, that application is launched. This application can do what a customer desires prior to launching the Microsoft Shell. This feature allows end customers to make their own application the shell of the system. If desired, do not exit the custom shell nor call SignalStarted.

PostShell

PostShell (PostShell.exe) can launch an application after the Microsoft Shell has launched. There are utility applications that exist that can take advantage of "hooking" the startup for maintenance, for example.

PostShell searches the "\Flash File Store\SYSTEM" directory for an executable of the same name. If one exists, that application is launched instead. This application can do what a customer desires and is launched after the Microsoft Shell starts initialization. The Microsoft Shell does not require complete initialization before this application begins and that may cause some application or system issues. These issues are expected and are considered normal for those developing PostShell applications. The application must test if the APIs it requires are available.

RunAutoRun

System components are installed and configured during the power up process from a single starting point. RunAutoRun (RunAutoRun.exe), built into the operating system image and located in the "\Windows\Startup" folder, checks for AutoExec (AutoExec.exe) in a "\SYSTEM" folder on a mounted volume in this order:

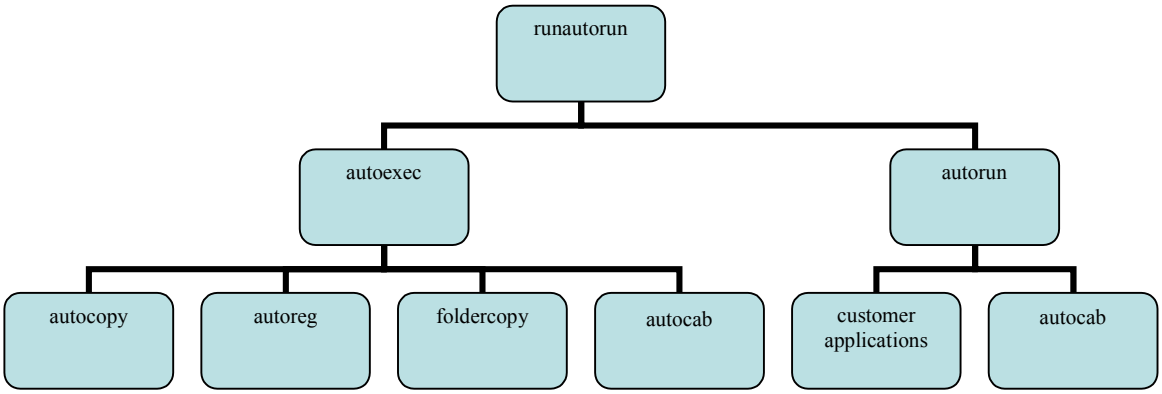
- Secure Digital (SD)
- Object Store - may be non-volatile storage or RAM
- Disk on Chip (DOC) - may map as Object Store
- Flash File Store - may map as Object Store. This is the default location for the AutoExec program in Intermec systems. Intermec system applications are started from this folder. The ordering of mounted volumes overrides this feature.

The folder names used for the mounted volumes above are retrieved from the registry to maintain coherence with the naming of the mounted volumes on the platform. These folder names are not hard-coded. If AutoExec is present in the "\SYSTEM" folder on any of these media, it executes the program only on the first media it is found on and no other.

AutoExec is reserved for Intermec use to configure Intermec-specific applications. It launches the CAB installer, AutoCab (AutoCab.exe), to install platform cab files to the system, such as Intermec Data Collection.

When the AutoExec.exe process completes, Run Autorun then checks for the existence of AutoRun (AutoRun.exe) and executes this program from the first media it is found on. This order is the same as what is used by AutoExec.

AutoRun is reserved for customer use to configure application launch sequences. It launches the CAB installer, AutoCab, as well as any customer programs that added to the AutoUser.dat file and is described on the next page. The hierarchy of these files is shown below.



AutoExec

AutoExec (AutoExec.exe) automates operations such as pausing, launching processes, or signaling, and is configured through the AutoExec data file (AutoExec.dat). This script file must be in the same directory as the program itself.

Note: Intermec considers the usage of the AutoExec data file as "Intermec Private." AutoExec installs Intermec applications such as Data Collection, Security Supplicants, Intermec Management, applets, and shortcuts from components found in the Flash File System. Do not modify the AutoExec data file. Instead, use the AutoRun program to add software components.

Usage:

```
AutoExec [-%[W]] [-E=["X"]] [-F=["Y"]] [-LOG=] [-W=[Z]]
```

-%	Passes an ID to use in a call to SignalStarted. This argument is useful only during system startup that relies on a SignalStarted to call. W is an integer value.
-E	Passes a signal event name to use when autoexec completes. X is a string value.
-F	Overrides the data file to use. This must be a fully qualified name. Default is "autoexec.dat" in the same location as the AutoExec.exe program. Y is a string value.
-LOG	Set to any value logs activity to AutoExec.txt (in the same location as the AutoExec.exe program). Default is disabled.
-W	Pauses the autoexec process by calling sleep for the number of seconds specified by Z. Z is an integer value.

The return code from the process uses the standard error codes defined in WinError.h. Keywords that AutoExec supports are:

QUIET	Enables user notification when an error occurs.
LOGGING	Enables logging to a trace file.
SIGNAL	Enables the specified named event and is immediately signaled. Useful for notifying other components of the current status.
CALL	Opens another .dat file to process. After the called file is completed, this file is resumed.
RUN	Runs a program with a *SW_SHOWNORMAL* attribute. Autoexec does not wait for the child process to exit.
LOAD	Runs a program with a *SW_HIDE* attribute. Autoexec waits for 60 seconds for the child process to exit or *EXECWAIT* seconds if set.
EXEC	Runs the specified program. AutoExec waits 60 seconds for the child process to exit or *EXECWAIT* seconds if set.
EXECWAIT	Changes the default EXEC wait time from 60 seconds to the number of seconds specified. There is a maximum 10-minute limit imposed.
WAIT	Forces a sleep for the specified number of seconds to occur.
WAITFOR	Forces a sleep until the named event is signaled.

Examples of keyword usage are as follows:

```
; Allow message pop up if an error occurs.
QUIET 0

; Log any debug output to a trace file.
LOGGING 1

; Perform a SetEvent on the event name "autoexec_started".
SIGNAL "autoexec_started"

; Include this child data file, childexec.dat.
CALL "\childexec.dat"

; Use autocopy to copy the audio control panel from flash file store to the
windows directory. Wait for up to 60 seconds for it to exit.
EXEC "\Flash File Store\SYSTEM\autocopy.exe" -S"\Flash File Store\Sys-
tem\CPLAudio.cpl" -D"\Windows\CPLAudio.cpl"

; Change the default EXEC wait time to 90 seconds.
EXECWAIT 90

; Suspend processing any commands for 10 seconds.
WAIT 10

; Suspend processing any commands until event called MyEventName is signaled.
WAITFOR "MyEventName"
```

AutoRun

AutoRun automates operations such as launching other processes and is configured through the AutoRun data file (AutoRun.dat). This script file must be in the same directory as the program itself.

AutoRun supports the following script commands in AutoUser.dat and AutoRun.dat.

Note: If you need to add steps at boot time, add them to AutoUser.dat, not to AutoRun.dat. AutoRun.dat is provided by Intermec and is subject to change. AutoUser.dat is the designated place for the end user to add steps to the boot time process.

EXEC	Launches a specified program, waits for it to complete (up to 10 minutes).
CALL	Processes a specified file of commands and returns.
CHAIN	Processes a specified file of commands and does not return.
RUN	Loads a specified program and executes it.
LOAD	Loads a specified program and executes it.

AutoRun handles quoted file names for the first parameter which allows you to specify path names or file names that contain white space. Note that only one set of quotes per command is supported.

AutoRun.dat entry examples:

RUN	“Flash File Store\Apps\some.exe” arg1, arg2, arg3
CALL	“Flash File Store\2577\usercmds.dat”

AutoCopy

AutoCopy (AutoCopy.exe) copies or moves files from one location to another. It has no user interface and is configured through command line arguments. It has support for the following parameters:

Usage:

```
AutoCopy [-D["W"]] [-L["X"]] [-M[D]] [-Q[Y]] [-S["Z"]]
```

-D	Indicates the destination file name and must be fully qualified. W is a string value.
-L	Indicates a fully qualified file name for logging to enable. Default is disabled. X is a string value.
-M	Moves file to a destination rather than copies the file. Default value is disabled. D is an integer value. D=1 indicates enabled, 0 is disabled.
-Q	Indicates if a message box should appear when an error occurs. Default is disabled. Y is an integer value.
-S	Indicates a source file name and must be fully qualified. Z is a string value.

The return code from the process uses the standard error codes defined in WinError.h.

Example:

```
; use AutoCopy to copy the control panel from flash file store to windows.
autocopy.exe -S"\Flash File Store\System\Audio.cpl" -D"\Windows\Audio.cpl"

; use AutoCopy to move the control panel from flash file store to windows.
autocopy.exe -M1 -S"\Flash File Store\System\Audio.cpl" -D"\Windows\Audio.cpl"
```

AutoReg

The AutoReg (AutoReg.Exe) component adds registry information to the Windows Mobile registry. It has no user interface and is configured through command line arguments.

Usage:

```
AutoReg [-D] [-HKey] [-Q] "filename"
```

-D	Deletes the registry file after successfully loading it. This allows for systems that have hives implemented.
-H	Saves the registry path, and all child entries, to the specific .reg registry file.
-Q	Indicates whether a message box should appear when a fatal error occurs.
filename	Fully qualified file name to read from or write to, encased in double quotes to support spaces in paths or file names. See examples below.

The return code from the process uses the standard error codes defined in WinError.h.

Example:

```
; use AutoReg to install this registry information.
autoreg.exe "\Flash File Store\install.reg"

; use AutoReg to install this registry information. Delete the file afterwards.
autoreg.exe -D "\Flash File Store\install.reg"

; use AutoReg to extract registry information to a file.
autoreg.exe -HHKEY_LOCAL_MACHINE\Software\Intermec\Version "\version.reg"
```

The format of the input file, in this example, is the standard registry format which should ease the creation of the input file since there are many publicly available utilities to generate a registry file besides Notepad. One example of a tool is the Microsoft Remote Registry Editor.

AutoCab

AutoCab (AutoCab.exe) extracts files, registry settings, and shortcuts from Windows Mobile cabinet (.cab) files. The Windows Mobile startup sequence invokes AutoCab as a part of AutoExec and AutoRun. During the Windows Mobile startup sequence, AutoCab processes all CAB files in the "\CabFiles" directory relative to the current location of Autocab, unless the location is overridden by command line arguments. AutoCab can run as a stand-alone program to install a CAB file or a directory of CAB files.

AutoCab only installs the CAB file if it was not installed before by AutoCab. To track the installation of a CAB file, AutoCab marks the CAB file with the System attribute. This attribute is ignored if the device is performing a cold-boot on a non-persistent file system.

AutoCab preserves the CAB file after installation if the ReadOnly attribute is set. If not set, the CAB file is deleted automatically after installation.

Usage:

```
AutoCab [-ChkRst=][-File=][-Force][-Log=][-Move=][-Quiet=][-Show=][-Signal=]
```

Command line switches are described below.

-ChkRst=	Set to 1 to configure AutoCab to check for the Reset flag after all CAB files are installed. This file is created by CAB files that want a warm reset after installation. Default is 0 (do not check for flag).
-File=	Specifies the CAB files to extract. Note that the specified files need not end with the .cab extension.
-Force	Forces the specified CAB files to extract regardless of whether it was previously extracted.
-Log=	Set to 1 to create a log file in the same folder that AutoCab is running. Useful for debugging CAB installation. Default is 0 (disabled).
-Move=	Set to 1 to force source CAB file deletion, even when read-only bit set on file. Default is 0 (disabled).
-Quiet=	Set to 0 to allow AutoCab to display user message box on errors. Useful for debugging CAB installation. Default is 1 (keep quiet).
-Show=	Set to 0 to prevent showing any installation progress interfaces. Also prevents user from canceling installation. Set to 1 to show normal installation. Set to 2 to show Intermec installation progress interface (user can see what is installing but cannot cancel it). Default is 1 (show normal).
-Signal=	Set to string name of signal to use at the completion of CAB installation before a reboot occurs (if enabled). AutoCab uses WaitForSingleObject on this name. Default is disabled.

If <PathName> references a single CAB file, that file is processed. If <PathName> references a directory, all the .cab files in that directory is processed. If <PathName> is a wild card pattern, all files matching that pattern is processed, If <PathName> is omitted, InstallCab processes all the .cab files in directory "\CabFiles."

Example:

```
; Install all cab files in the \Flash File Store\XYZ directory, regardless.
AutoCab -FILE="\Flash File Store\XYZ\*.cab" -FORCE

; Install only one cab file, use Intermec cab installation display
AutoCab -FILE="\myCab\app.cab" =show=2
```

Customizing How Applications Load on the CK60

If you have several processes that you need running in a specific order as the CK60 turns on, you can use the AutoRun system to customize the way applications load. For compatibility with other Intermec computers, you can place a copy of AutoRun.exe in the same folder as your AutoRun.dat file but it is not required.

To create and install the AutoRun.dat file on your CK60

1 On the CK60, create a folder called "SYSTEM."

2 On your desktop, open the Notepad application.

3 Write commands for AutoRun.dat using these supported script commands:

Script Command	Description
EXEC	Launches a specified program and waits up to ten minutes for it to complete.
CALL	Processes a specified file of commands, returns. When you use the CALL command, the execution of the current file pauses while a new file that follows the same set of commands executes. Once the new file completes executing, AutoRun.exe processes the current file.
CHAIN	Processes a specified file of commands and does not return. This command calls another file that follows the same set of commands and stops processing the current file.
RUN	Loads a specified program and executes it. Specifies the show window attribute so that the user interface is visible when the application launches.
LOAD	Loads a specified program and executes it. Specifies the hide window attribute so the user interface is hidden initially.

4 Save this Notepad file as AutoRun.dat.

5 Copy the AutoRun.dat file to the "\SYSTEM" folder on your CK60.

During every boot, the system scans for AutoRun.dat in the "\SYSTEM" folder.

Here is a sample AutoRun.dat file that runs a dialer application and connects to a VPN:

```
EXEC "\Program Files\My Dialer\Dialer.exe" 348-2600
EXEC "\Program Files\My VPN\Connect.exe" MyDomain
```

Configuring CK60 Parameters

You can configure many parameters on the CK60, such as the bar code symbologies it decodes or the network settings. These characteristics are controlled by configuration parameters. The values you set for these configuration parameters determine how the computer operates. Use configuration commands to configure the CK60.

Configuring with the Setup Assistant

When first setting up the CK60, use the Setup Assistant to set or enable basic network parameters and connect your CK60 to the network.

The Setup Assistant guides you through setting the following basic network parameters: date and time (including time zone), SSID (Network name), DHCP server or IP address, subnet mask, and default router, primary and secondary DNS or WINS addresses, and device name.

To set other parameters, use another configuration method. The Setup Assistant runs on the CK60 when you turn on the computer.

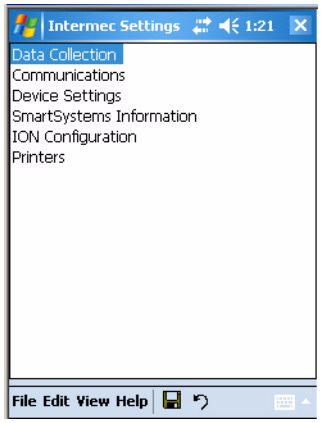
After the Setup Assistant is complete, the CK60 should communicate with the network. A network connection icon appears in the taskbar.

Configuring the Computer With Intermec Settings

Use the Intermec Settings applet to configure the CK60 and view system information. You can access the Intermec Settings applet while running any application.

To access the Intermec Settings applet

- From the CK60 desktop, select **Start** > **Settings** > the **System** tab > the **Intermec Settings** icon.



For detailed information on most of the commands available in the Intermec Settings applet, see the *Intermec Computer Command Reference Manual* (P/N 073529) via the Intermec web site. Go to "Global Services and Support" on page xi for access information.

Synchronizing the Computer System Time with a Time Server

It is important that the time on all of your CK60s be synchronized with a network time server to ensure real-time communications and updates. Network time servers acquire Coordinated Universal Time (UTC) from an outside source such as the U.S. Naval Observatory (USNO). The CK60 uses Simple Network Time Protocol (SNTP) to synchronize with a network time server.

The default reference time server is the USNO (tock.usno.navy.mil). To synchronize the time on your CK60 with this time server, you must have a valid connection to the Internet. You can also synchronize the CK60 system time with a corporate network server within your firewall that is SNTP-capable. To use an internal corporate network server, you need to set the command name in the registry.

Configuring the Computer through the Network

You can change the configuration parameters of the CK60 by sending commands through a host computer or through the network. If you are using a network, you can configure one or more CK60s at a time. You can remotely configure the wireless or Ethernet CK60 by sending a command from an application on the host computer.

Note: You cannot set all parameters through the network. You can only set those commands that have a syntax in the *Intermec Computer Command Reference Manual*.

Note: You can continue running an application on the CK60 while configuring it from the host computer.

Configuring the Computer in a TCP/IP Direct Connect Network

You can use the host computer to configure a wireless or Ethernet CK60 in your TCP/IP network. To send and receive configuration data, you need to write a host application that can communicate with the CK60 directly through an access point or through the Ethernet network. Use the TMF protocol to send and receive transactions between the host application and the CK60.

To set up the host computer, verify that you can communicate with the CK60. To set up the application, prepare and write a host application that can communicate with the Intermec Application Server and send transactions to and receive transactions from the CK60 in this format:

```
TMF field   commands
```

where:

TMF field	A 2-byte field containing one of these values: CG Configuration Get request sent from the host application. Cg Configuration Get response sent from the CK60 to the host computer. CS Configuration Set request sent from the host application. Cs Configuration Set response sent from the CK60 to the host computer.
commands	The reader and configuration commands to set on the CK60 or the current value to retrieve from the CK60. To save configuration changes in flash memory, send the `.+1` reader command as the last command. See the *Command Reference Manual* for a list of commands.

Example

In the host application, you want to get the current values of two configuration commands from the CK60. Send the `CG$+NABV` transaction from the host application

Note: The transaction header is not shown in this example. You do not need a transaction header for a host application in a TCP/IP network, but you do for a UDP Plus network.

where:

CG	is a TMF Configuration Get request.
$+	is the Change Configuration reader command.
BV	is the Beeper Volume configuration command.

The CK60 returns the `CgS+BV4` transaction to the host application, where:

Cg	is a TMF Configuration Get response.
$+	is the Change Configuration reader command.
BV4	means the Beeper Volume configuration command is currently set to a value of 4, which is a very high beeper volume.

Configuring the Computer in a UDP Plus Network

You can use the host computer to configure a CK60 in your wireless or Ethernet network. To send and receive configuration data or files, you need to write a host application that can communicate with an Intermec Application Server (formerly Gateway or DCS 30X).

For help, see the appropriate Gateway or DCS 30X User's Manual. Use the Terminal Message Format (TMF) protocol to send and receive transactions between the host application and the CK60.

To set up the Intermec Application Server

- Configure a peer-to-peer destination name for the host application. Create a transaction ID, $NGCFGRSP, that routes to this destination name. The Intermec Application Server uses the transaction ID to route responses from the CK60 back to the host application. $NGCFGRSP is

a special transaction ID that the server uses to forward configuration response data from CK60s.

All configuration responses are routed with the $NGCFGRSP transaction ID. The Intermec Application Server cannot track multiple applications sending reader or configuration commands. If you have two host applications sending reader or configuration commands, they must both be configured to receive the $NGCFGRSP transactions, and therefore both receive all responses from all CK60s.

To set up the host computer, verify that the host computer can communicate with the Intermec Application Server.

To set up the application, prepare and write a host application that can communicate with the Intermec Application Server and send transactions to and receive transactions from the CK60 in this format. *For an example of the host application transaction, see* **page 94**.

```
transaction header      TMF field   commands
```

where:

transaction header	A 96-byte field with message number, date, time, source application ID, destinations application ID, transaction ID, and other information. Set the system message (SYS$MSG) flag to E in the transaction header.
TMF field	A 2-byte field containing one of these values: CG Configuration Get request sent from the host application. Cg Configuration Get response sent from the CK60 to the host computer. CS Configuration Set request sent from the host application. Cs Configuration Set response sent from CK60 to host computer
commands	The reader and configuration commands to set on the CK60 or the current value to retrieve from the CK60. To save configuration changes in flash memory, send the `.+1` reader command as the last command. See the *Command Reference Manual* for supported commands.

Reprogramming the CK60 Keypad

This section covers basic keypad remapping changes for the CK60, to redefine basic virtual key values generated by the CK60 keypad. Other, more advanced options such as multi-keys and named events are not covered here. For advanced options, contact your Intermec representative.

Implementation

The CK60 keypad virtual key mappings are controlled by registry entries, which are read each time the keypad driver loads. You can “remap” the keypad after it has loaded by modifying the registry entries and then sending a signal to the keypad driver to re-read the registry mappings.

The keypad driver uses the scan code values returned by the keypad device as an index into these registry entries to determine the virtual key value sent to the system.

Registry Entries

There are three main "shift plane" registry entries which map the keypad device scancodes to the windows virtual key values. Each registry entry is an array of 128 WORDs (2 byte unsigned int, little endian). Since scan codes generated by the keypad device can range in value from 0x00 to 0x7f, the driver uses the generated scan code value as an index into one of the shift plane entries to determine the virtual key value sent up to the system.

The shift plane registry entry used is determined by the current state of the Orange and Green keys. If the Orange key is held down, then the "Orange shift plane" array is used. If the Green key is held down, then the "Green shift plane" array is used. If neither Orange nor Green key is held down, then the "Normal, unshifted plane" array is used.

The name of the three registry entries that define the Normal, Orange, and Green shift planes are as follows:

```
HKLM\HARDWARE\DEVICEMAP\KEYBD\xxxx\Vkey (Normal)
HKLM\HARDWARE\DEVICEMAP\KEYBD\xxxx\VkeyGold (Orange)
HKLM\HARDWARE\DEVICEMAP\KEYBD\xxxx\VkeyAlpha (Green)
```

Where xxxx is a four-digit keypad ID which identifies the type of keypad on your CK60.

These are the registry entries (which are arrays of 128 WORDs) you need to modify to remap your keypad.

Programming the Keypad

Do the following to change a single key on the CK60 keypad. You can change more than one key, if desired.

1 Identify your keypad

Read the four bytes of text stored in the registry entry. For this example, this value is referred to as <KPID>.

```
HKEY_LOCAL_MACHINE\Drivers\BuiltIn\KEYPAD\ActiveConfig
```

2 Read the shift plane mapping

Read each of these key values into a WORD array of size 128. *Note that not all keypads have entries for VkeyGold and VkeyAlpha.*

```
HKLM\HARDWARE\DEVICEMAP\KEYBD\<KPID>\Vkey (Normal)
HKLM\HARDWARE\DEVICEMAP\KEYBD\<KPID>\VkeyGold (Orange)
HKLM\HARDWARE\DEVICEMAP\KEYBD\<KPID>\VkeyAlpha (Green)
```

3 Modify the shift plane mapping

Write the desired virtual key value to the scan code offset of the desired shift plane.

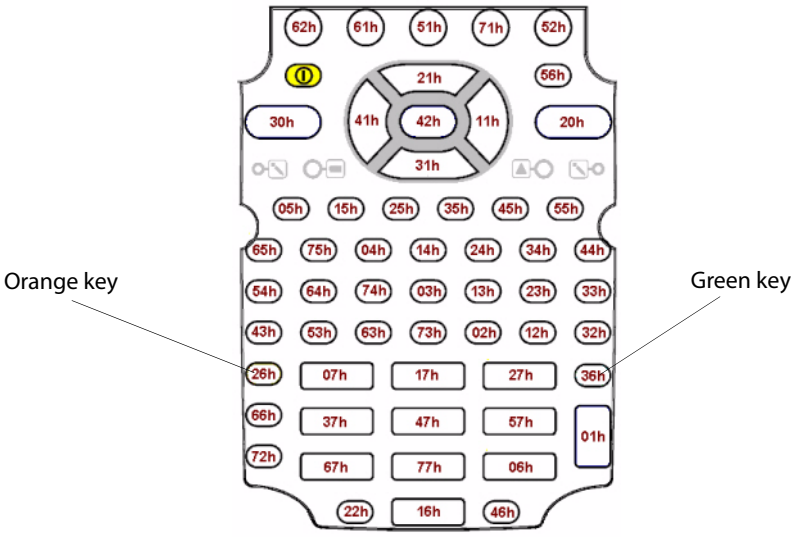
You can use the scan code diagrams below and on the next page to find the scan code for the keys you want to remap.

Note: Scan code 00h is the left scan trigger, scan code 10h is the right scan trigger, and all values are hexadecimal.

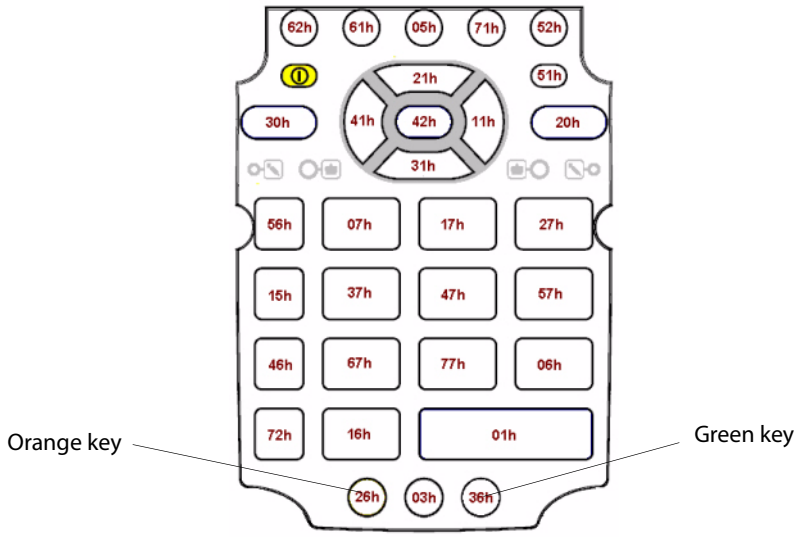
4 **Save the modified shift plane mappings**
Write the registry values back.

5 **Signal the keypad to reload**
Open the "ITC_KEYBOARD_CHANGE" named event and call SetEvent() to signal the keypad to reload.

Alphanumeric Scan Codes



Numeric Scan Codes



Configuring the SF51 Cordless Scanner

The following information pertains to configuring the SF51 Cordless Scanner to work with your CK60. These instructions assume you have EasySet installed on your desktop or laptop. EasySet is available from the Intermec Data Capture web site, contact your Intermec representative for information about this application.

Imager Settings

Depending on what is selected as the scanner model, image settings, decode security, scanner settings, and virtual wedge are configured from the Intermec Settings applet. See the *Intermec Computer Command Reference Manual*, available from the Intermec web site at **www.intermec.com**, for more information about each enabled option.

Enabling Bluetooth

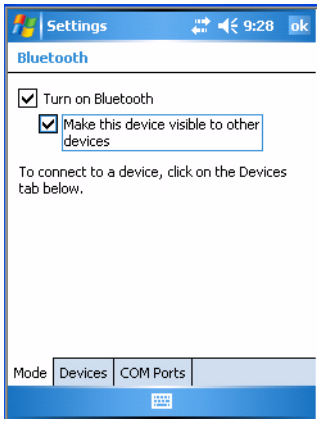
Bluetooth is required for the SF51. On the CK60, use the Bluetooth applet to enable Bluetooth communications before you configure the SF51.

To enable Bluetooth

1 Select **Start** > **Settings** > the **Connections** tab > the **Bluetooth** icon.

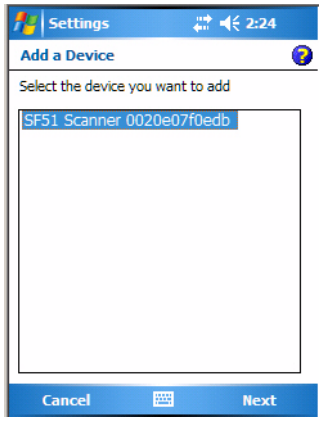
2 Check **Turn on Bluetooth**.

3 Click **ok** to apply this change.



Creating an SF51 Connection Label

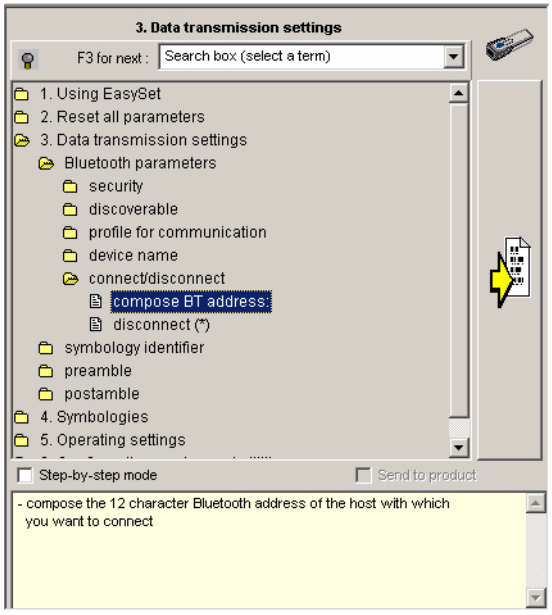
To initiate a connection from the SF51, use EasySet to create an SF51 connection label with the CK60 Bluetooth address. The device address is listed in the Bluetooth applet via the **Devices** tab on your CK60, like the following example:



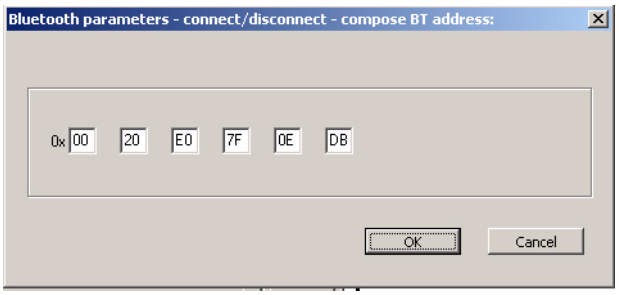
To initiate a connection

1 On your desktop or laptop, double-click the **EasySet** icon to activate EasySet if you have not already done so.

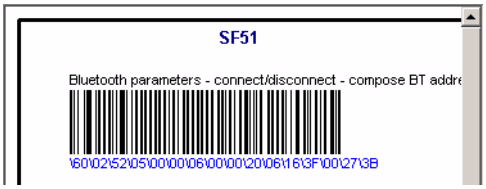
2 In the left side, double-click **Data transmission settings** > **Bluetooth parameters** > **connect/disconnect** > **compose BT address**.



3 Enter the Bluetooth address assigned to your CK60 (shown in your Bluetooth applet), then click **OK** to close this dialog.

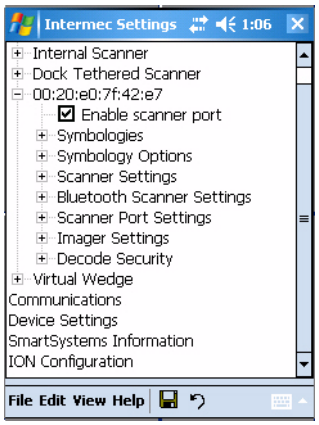


4 The connection label for the SF51 appears to the right, similar to the following. Scan the label once, then confirm the blue Intermec Ready-To-Work™ indicator on the end of the SF51 starts blinking, which means it is trying to connect. When connected, the indicator assumes a steady blue, then SF51 data gets wedged through the keyboard interface.



Viewing SF51 Information from Your Computer

Note that in the CK60, the Intermec Settings applet can display up to seven separate SF51 connections. The following illustration shows such connections under the **Data Collection** option.



To view the SF51 connections

1 Tap (+) to expand **Data Collection**.

2 Tap (+) to expand the **SF51 Scanner** connections to view MAC addresses, firmware version numbers, and whether each scanner is connected to the CK60.

3 When you clear (uncheck) **Enable scanner port**, the SF51 is disconnected from the CK60.

4 Check **Enable scanner port** again to reconnect.

To rename these connections to descriptions more suitable for your situation

- Press the stylus on each **SF51 Scanner** connection for a pop-up menu, select **Rename**, enter the new description, then tap **ok** to save your entry.

When the SF51 is connected, configuration changes take effect immediately. When the SF51 is not connected, configuration changes take effect once the SF51 is reconnected.

Using Configuration Parameters

A configuration parameter changes the way the CK60 operates, such as configuring a parameter to have the CK60 emit a very loud beep in a noisy environment. Use any of these methods to execute configuration parameters:

Scan EasySet bar code labels:
You can use EasySet from Intermec Technologies Corporation to print configuration labels. Scan the labels to change the imager configuration and data transfer settings. For more information, see the EasySet online help.

Send Reader Commands through the Network or from an Application
You can configure parameters by sending reader commands through the network or from an application. See the *Intermec Computer Command Reference Manual* (P/N 073529) for more information.

4 Maintaining the Computer

Use this chapter to upgrade the operating system, solve problems you may encounter, and perform routine maintenance on your CK60 Mobile Computer:

Note: Desktop icons and applet icons are shown to the left. Any place that **Start** is mentioned, tap the following Windows icon in the top, left corner of your CK60 desktop.

Upgrading the Operating System on Your Computer

You can use the *Intermec Recovery Tools CD* to reinstall or upgrade the operating system software on the CK60. For more information, contact your Intermec representative for more information about this CD.

You can use the SmartSystems™ Foundation 2.0 application from Intermec to perform upgrades on your CK60, versions 2.0 or later. Contact your Intermec representative for more information about the SmartSystems Foundation software.

When you upgrade the operating system, you erase the current configuration and replace it with the new default configuration. You will need to reset the network parameters on the CK60 to reestablish communications with other devices in the network. In other words, if you upgrade the operating system and the default registry from the operating system has changed, the registry is rolled back to the new default.

When you upgrade your CK60, you are updating the operating system (OS) and the Persistent Storage Manager (PSM) files.

The PSM files are stored on the DiskOnChip, and deliver Intermec Value-Added (IVA) functionality such as data collection, unit configuration and diagnostics, and Intermec's wireless security suite. As new features are added to these components, you can upgrade your PSM files without needing to upgrade the operating system image. Similarly, features added to the operating system images do not affect the functionality of the PSM, and you can choose to upgrade only the operating system image.

There are two ways to upgrade the CK60:

- You can use a Secure Digital card to upgrade the CK60. For help, see below.
- You can use the SmartSystems Console to upgrade the CK60. For help, see **"Using the SmartSystems Console to Upgrade the Computer" on page 107**.

You need to download the latest upgrade files from the Intermec web site to your desktop or laptop computer, then determine if you will upgrade both the operating system and PSM files, just the operating system files, or just the PSM files.

To upgrade with a Secure Digital storage card

1. Start your web browser and go to the Intermec web site at **www.intermec.com**.
2. Go to **Service & Support > Downloads**.
3. Select **Computers: CK60 Mobile Computer** from the drop-down list.
4. Select which download you need. Make sure the download you select is for the CK60.

5 Look at the description (or the ReadMe file) to determine if this download will upgrade both the operating system and PSM files, just the operating system, or just the PSM. You will need this information later.

6 Close the link and download the .zip file to your desktop or laptop computer.

7 If you are using a Secure Digital card to upgrade the CK60, see below.

If you are using the SmartSystems Console to upgrade the CK60, see "Using the SmartSystems Console to Upgrade the Computer" on page 107.

Using a Secure Digital Card to Upgrade the Computer

To use a Secure Digital card to upgrade the CK60, you need a Secure Digital card reader and a Secure Digital card formatted as FAT16.

Note: The CK60 currently supports Delkin Devices Secure Digital cards only. Intermec cannot guarantee that other Secure Digital cards will work with the CK60.

- For both the operating system and PSM files, see "Upgrading Both Operating System and PSM Files" on page 105.
- For just the operating system, see "Upgrading the Operating System" on page 106.
- For just the PSM files, see "Upgrading the PSM Files" on page 106.

Upgrading Both Operating System and PSM Files

You may download files that upgrade both the operating system and PSM files simultaneously. Note that this is a two-step process.

1 Extract the upgrade files to a folder on your desktop or laptop computer. Be sure to select the option to use folder names when extracting the files.

2 Place all individual root files onto your Secure Digital card, this will update your operating system only. Ignore the PSM files at that point.

3 Insert the Secure Digital card in the CK60. For help, see "Using the Secure Digital Card" on page 19.

4 Remove the battery pack from the CK60 and place the CK60 in a dock connected to external power. For help, see "Changing and Installing the Battery" on page 12.

5 Using a stylus, press the **Reset** button inside the battery cavity.

Caution

Do not use force or a sharp object when pressing the Reset button, or you may damage this button.

6 When the Installation Complete menu appears, remove the Secure Digital card, then press the **Reset** button again.

7 Remove the existing files from the Secure Digital card and place all of the files from the PSM/IVA folder into your Secure Digital card. The number of files will vary from version to version.

8 Insert the Secure Digital card in the CK60.

9 Using a stylus, press the **Reset** button inside the battery cavity, press and hold the I/O key until the clean boot menu appears, then press **Enter** to reflash the PSM/IVA.

The operating system will boot and load files from the Secure Digital card. The process is complete once the pen calibration screen is visible. After this, remove the files from the Secure Digital card.

When the CK60 finishes booting, you may use it. You have reset the CK60 to its default configuration. You need to set the date and time and to set its network communications parameters to reestablish communications with the other devices in the wireless network.

Upgrading the Operating System

You may download files that upgrade only the operating system.

1 Extract the upgrade files to a Secure Digital card.

2 Remove the battery pack from the CK60 and place the CK60 in a dock connected to external power. For help, see **"Changing and Installing the Battery" on page 12**.

Note: The upgrade will fail if the CK60 is not connected to external power. For help, see **"Accessories for the CK60" on page 26**.

3 Insert the Secure Digital card in the CK60. For help, see **"Using the Secure Digital Card" on page 19**.

4 Using a stylus, press the **Reset** button inside the battery cavity. *Do not use force or a sharp object when pressing the **Reset** button, or you may damage this button.*

5 When the Installation Complete menu appears, remove the Secure Digital card, then press the **Reset** button again.

When the CK60 finishes booting, you may use it. You have reset the CK60 to its default configuration. You need to set the date and time and to set its network communications parameters to reestablish communications with the other devices in the wireless network.

Upgrading the PSM Files

You may download files that upgrade only the PSM files.

1 Extract the upgrade files to a Secure Digital card.

2 Using a stylus, press the **Reset** button inside the battery cavity, press and hold the power switch until the clean boot menu appears, then press **Enter** to reflash the PSM/IVA.

3 The operating system will boot and load files from the Secure Digital card. The process is complete once the pen calibration screen is visible. After this, remove the files from the Secure Digital card.

When the CK60 finishes booting, you may use it. You have reset the CK60 to its default configuration. You need to set the date and time and to set its network communications parameters to reestablish communications with the other devices in the wireless network.

Using the SmartSystems Console to Upgrade the Computer

Use the SmartSystems Console to upgrade the operating system on your CK60. The console is part of SmartSystems Foundation and is available from the Intermec web site via the IDL. Before you can upgrade your computer, you need:

- the SmartSystems Foundation. To download SmartSystems Foundation, go to **www.intermec.com/idl** and open the Device Management page.
- the device upgrade .exe file, which is available from the Intermec web site at **www.intermec.com**. Go to **Service & Support** > **Downloads**.

1 Install SmartSystems Foundation on your desktop or laptop computer, then open the console.

2 Make sure the console and the CK60s are on the same subnet. For help, contact your Intermec representative.

3 Make sure your CK60s are either in a communications dock or charging dock, or that power management is disabled.

4 Download the device upgrade .exe file to your desktop or laptop computer.

5 Double-click the .exe file on your desktop or laptop computer. An InstallShield application starts and walks you through the process of extracting the upgrade files in the default location.

Note: Do not change the default location where InstallShield extracts the files. The SmartSystems Console requires the files be in this location.

6 From the SmartSystems Console, locate the device upgrade to install.

7 Drag-and-drop the device upgrade onto each CK60 icon.

Once the upgrade is done downloading to your CK60, your CK60 replaces the operating system, then automatically performs a cold boot.

The SmartSystems Console shows your CK60 as offline *(via a red stop sign)* until the device reboots and reconnects to the system.

Troubleshooting Your Computer

- Problems While Operating the Computer (page 108)
- Problems While Configuring the Computer (page 109)
- Problems While Configuring 802.1x Security (page 109)
- Problems with Wireless Connectivity (page 110)
- Problems Transmitting Data through the Serial Port (page 111)
- Problems While Scanning Bar Codes (page 111)

Before sending the CK60 in for service, save its data and configuration. Intermec is responsible only for the keypad and hardware features to match the original configuration when doing repairs or replacements.

Problems While Operating the Computer

Problem	Solution
You press ⏻ to turn on the CK60 and nothing happens.	Make sure the backlight is on by pressing ☼. Make sure you have a charged battery installed correctly. For help, see "Using the Battery" on page 11. The battery may be discharged. Replace the battery with a spare charged battery, or charge the battery. Perform a warm-boot.
The Battery status LED is on.	• If the battery status LED is a steady green, the battery is more than 95% charged and unit is on a charger. • If the battery status LED is blinking red, then the battery is low. The speed of the blinking increases as the battery power gets increasingly lower. • If the battery status LED is a steady red, the main battery is on charge. • If the battery status LED is a steady amber for more than 12 hours, then replace the battery pack.
The CK60 appears to locked up and you cannot enter data.	• Press and hold the to turn off the CK60, then press the power switch again to turn on the CK60. • Press and hold the power switch for ten seconds to warm-boot the CK60. • Perform a cold-boot on the CK60. See "Resetting Your Computer" on page 3. • Try reloading the firmware. See "Upgrading the Operating System on Your Computer" on page 104. • If the CK60 does not boot or reset, contact your local Intermec representative for help.

Problems While Configuring the Computer

Problem	Solution
You scan a configuration command, such as Beeper Volume, and you hear three low beeps.	If you are working in the Intermec Settings applet, you cannot scan configuration commands. Exit the applet to scan configuration commands.
You scan or enter an option for the Scanner Model configuration command and you hear three low beeps.	You may have scanned or entered a Scanner Model command that does not apply to the type of scanner that you have installed. Try scanning or entering the Scanner Model command again and select an option for the type of device you are using.
You cannot type a character on the keypad or you can only type uppercase or lowercase letters.	You may have locked a modifier key on the keypad. Check the CK60 status bar to see if it contains an icon with a locked symbol. Press the necessary key sequence to unlock the key. See "Using the Keypad" on page 16.

Problems While Configuring 802.1x Security

If you have trouble configuring the computer for 802.1x security, check these problems and possible solutions.

Problems While Configuring 802.1x Security

Problem	Solution
The CK60 indicates that it is authenticated, but it does not communicate with the host.	Ensure CK60 IP address, host IP address, subnet mask, default router are configured for network. Do not perform a cold-boot as this resets the time and date. Update time and date for Certificate of Authority.
The CK60 does not appear to be authenticating and a network connection icon does not appear on the status bar.	CK60 may not be communicating with access point. Ensure CK60 network name matches access point network name (SSID). Default network name is "INTERMEC." 802.1x security network may not be active. Ensure the server software is properly loaded and configured on server PC. For help, see server software documentation.
A network connection icon appears in the status bar, but then disappears.	CK60 may not be communicating with the intended access point. Ensure the CK60 network name matches the access point network name. Default network name is "INTERMEC." Access point may not be communicating with server. Ensure the access point is turned on, properly configured, and has 802.1x security enabled.
The CK60 indicates that it is not authenticated.	• Users Name and Password parameters on CK60 match the user name and password on authentication server. You may need to reenter the password on both CK60 and authentication server. • On your authentication server, the user and group are allowed and the group policy is allowed to log into the server. For help, see the documentation that shipped with your authentication server software. • IP address and secret key for access point must match the IP address and secret key on authentication server. You may need to reenter the IP address and secret key on both your access point and authentication server. • Authentication server software is running on server PC

Problems While Configuring 802.1x Security (continued)

Problem	Solution
You are setting up multiple access points in a network, with different SSIDs, and the connection fails.	The CK60 does not save WEP key values when changing the SSID. Reenter the WEP key value after changing the SSID, select **Apply Network Settings** from the 802.11 Radio menu. You should now be able to connect to the different access points.
You receive a message saying "The server certificate has expired or your system date is incorrect" after you perform a cold-boot on the CK60.	Date and time are not saved when a cold-boot is performed. Reenter the date and time, then select **Apply Network Settings** from the 802.11 Radio menu.

Problems with Wireless Connectivity

Problem	Solution
When you turn on the CK60 after it was suspended for a while (10-15 minutes or longer), it can no longer send or receive messages over the network.	Host may have deactivated or lost current terminal emulation session. In a TCP/IP direct connect network, turn off the "KeepAlive" message from host to maintain the TCP session while a CK60 is suspended.
The **No Network Connection** icon appears on the status bar. The CK60 is not communicating with the access point.	CK60 is not connected to access point. Ensure access point is turned on and operating. Move closer to access point to reestablish communications. Ensure CK60 is configured correctly for network. CK60 radio parameters must match all access point values (see page 128). If you have an 802.11b radio and its radio initialization process failed, reset the CK60 (see page 3). If the **No Network Connection** icon still appears, you may have a defective radio card. For help, contact your local Intermec representative.
The CK60 is connected to the Intermec Application Server or host computer and you move to a new site to collect data. The **Network Connection** icon was visible, but is now replaced with the **No Network Connection** icon.	Move closer to an access point or to a different location to reestablish communications until the **Network Connection** icon appears. Any data you collected while out of range is transmitted over the network.
The **Network Connection** icon is in the status bar, but you cannot establish a terminal emulation session with the host computer.	There may be a problem with the host computer, with the connection between the Intermec Application Server and the host computer, or with the connection between the access point and the host computer. Check with network administrator to make sure the host is running and allowing users to login to the system.
The **Network Connection** icon is in the status bar, but the host computer is not receiving any data from the CK60.	In a UDP Plus network, there may be a problem with the connection between the Intermec Application Server and the host computer. Check with network administrator or see the user's manual for the Intermec Application Server. In a TCP/IP network, there may be a problem with the connection between the access point and the host computer. Check with network administrator or use your access point user's manual.

Problems Transmitting Data through the Serial Port

If you are having problems sending or receiving data through the integrated serial port on the CK60, check these possible problems:

- Make sure the CK60 is connected to the PC, host computer, or RS-232 serial device using the appropriate cable adapter and null modem cable.
- If the CK60 is in a communications dock, make sure that the communications dock is connected to the serial device using the appropriate cable.

For more information on using the serial port, see "Configuring Serial Communications" on page 128.

Problems While Scanning Bar Codes

Problem	Solution
You cannot see a red beam of light from the scanner when you press the **Scan** button and aim the scanner at a bar code label.	You may be too far away from the bar code label. Try moving closer to the bar code label and scan it again. You may be scanning the bar code label "straight on." Change the scanning angle and try again. Move within 2 feet of a wall to test the effective scan of the scanner. For help scanning bar codes, see page 5.
When you release the **Scan** button or handle trigger, the **Good Read** light does not turn off.	The **Good Read** light will remain on if you configure the CK60 to use continuous/edge triggering. If you configure the CK60 for level triggering and the **Good Read** light remains on, there may be a problem. Press the **Scan** button or pull the trigger again without scanning a bar code label. If the light is still on, contact your local Intermec representative.
The input device attached to the CK60 does not work well or read bar code labels very quickly.	Set the Scanner Model command to the specific attached input device. Check enabled bar code symbologies and enable only the symbologies being used.
The scanner will not read the bar code label.	Aim the scanner beam to cross entire bar code label in one pass. Vary the scanning angle. Check the quality of the bar code label, Scan a bar code label that you know will scan. Compare the two bar code labels to see if the bar code quality is too low. You may need to replace the label that you cannot scan. Ensure the bar code symbology is enabled. Use the Intermec Settings applet to check the symbologies. Expand **Data Collection** > **Symbologies** beneath devices listed (scanner, virtual wedge) to check and enable symbologies, then scan the bar code label again. Ensure the CK60 application is expecting input from a bar code. You may need to type this information instead.
The scanner does not read the bar code labels quickly, or the scanning beam seems to be faint or obscured.	The scanner window may be dirty. Clean the window with a solution of ammonia and water. Wipe dry. Do not allow abrasive material to touch the window.
You scan a valid bar code label to enter data for your application. The data decoded by the scan module does not match the data encoded in the bar code label.	CK60 may have decoded the bar code label in a symbology other than the label's actual symbology. Try scanning the bar code label again. Make sure you scan the entire label.

Problems While Scanning Bar Codes (continued)

Problem	Solution
You receive a message reading "Scanner Communication Failure" when trying to connect a 1551E or 1553 decoded scanner.	Make sure that: • You are using the correct cable. • The scanner cable is attached correctly. When you attach the scanner to the port, it should emit a single power up beep. • Try enabling the port state using the Intermec Settings applet. • Try upgrading the scanner firmware. • Select ASCII as the scanner model.
Your 1551E or 1553 scanner was working fine, but after changing the port setting you cannot change the configuration.	1551E or 1553 scanner port must use the correct RS-232 settings to allow configuration in the Intermec Settings applet. Disable, then enable the scanner port state.
Configuration settings in the Intermec Settings applet do not match the settings on your 1551E or 1553 Scanner.	Disable, then enable the scanner port state to synchronize the CK60 settings with the scanner.

Cleaning the Scanner Window and Computer Screen

To keep the CK60 in good working order, you may need to clean both the scanner window and the CK60 screen.

Clean the scanner window and CK60 screen as often as needed for the environment in which you are using the CK60. To clean the CK60, use a solution of ammonia and water.

There are no user-serviceable parts inside the CK60. Opening the unit will void the warranty and may cause damage to the internal components.

Press the power switch to turn off the CK60. Dip a clean towel or rag in the ammonia solution and wring out the excess. Wipe off the scanner window and screen. Do not allow any abrasive material to touch these surfaces. Wipe dry.

5 Network Support

This chapter includes information about the different networks supported by the CK60 Mobile Computer, and ways to configure and manage those networks. Note that the CK60 automatically installs the appropriate software for radio or phone use when the unit is turned on.

Note: Desktop icons and applet icons are shown to the left. Any place that **Start** is mentioned, tap the following Windows icon in the top, left corner of your CK60 desktop.

Personal Area Networks

"Bluetooth" is the name given to a technology standard using short-range radio links, intended to replace cables connecting portable and fixed electronic devices. The standard defines a uniform structure for a range of devices to communicate with each other with minimal user effort. Its key features are robustness, low complexity, low power, and low cost. The technology offers wireless access to LANs, the mobile phone network, and the internet for a host of home appliances and mobile computer interfaces.

Wireless Printing can also be done with Microsoft APIs, including Bluetooth extensions for Winsock, and Bluetooth virtual COM ports. Information about other Bluetooth software is in the Bluetooth Resource Kit and the *Bluetooth Resource Kit User's Guide* via the Intermec Developer Library (IDL), which is available as a download from the Intermec web via **www.intermec.com/idl**. See your Intermec representative for information.

About the Application

Bluetooth is not started by default after a cold-boot is performed.

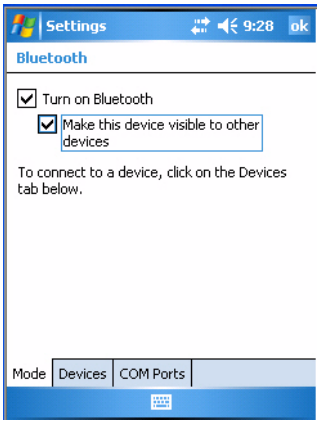
To run Bluetooth

- Tap **Start** > **Settings** > the **Connections** tab > the **Bluetooth** icon. The CK60 retains the Bluetooth state when either warm-boots or cold-boots are performed, for example:

- *If Bluetooth is enabled*, and either a warm-boot or a cold-boot was performed, the CK60 boots up with the Bluetooth state enabled and Bluetooth virtual COM ports (such as printing) registered. Reactivate the connections manually as the system does not do them.
- *If Bluetooth is disabled*, and either a warm-boot or a cold-boot was performed, the CK60 boots up with Bluetooth disabled.

To turn on Bluetooth

1. Select **Start** > **Settings** > the **Connections** tab > the **Bluetooth** icon > the **Mode** tab.
2. Check **Turn on Bluetooth**.
3. Check **Make this device discoverable to other devices**.
4. Tap **ok**.



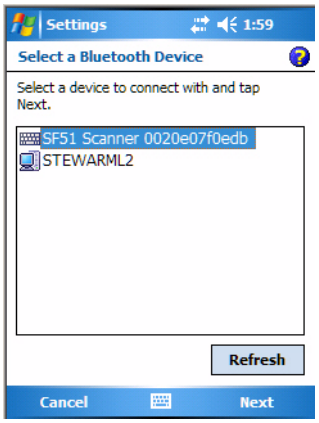
To scan for other Bluetooth devices

1 Select **Start** > **Settings** > the **Connections** tab > the **Bluetooth** icon > the **Devices** tab.

2 Tap **Add new device** to scan for remote Bluetooth devices.

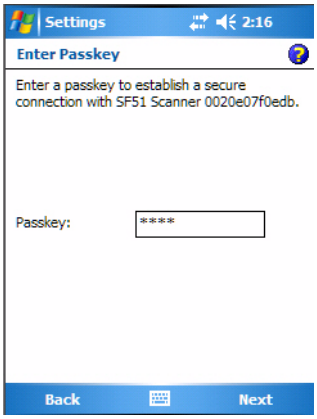
3 When the CK60 is finished scanning, any newly found devices appear in the box. Tap **Refresh** to do additional searches.

4 Select a device to which to connect, then click **Next**.

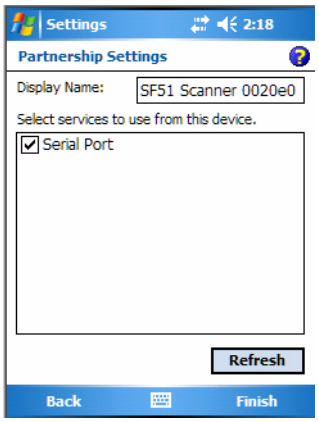


5 Enter a passkey to establish a secure connection, then tap **Next**.

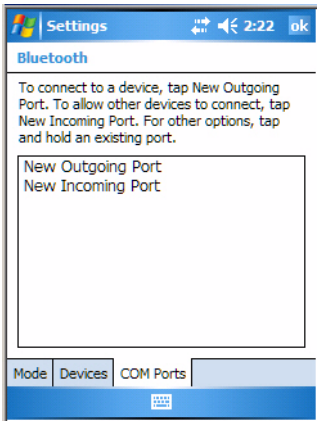
6 Tap **Yes** if prompted to let the other device connect with your CK60.



7 Select what services you want from this remote device, then click **Finish** to return to the **Devices** tab.



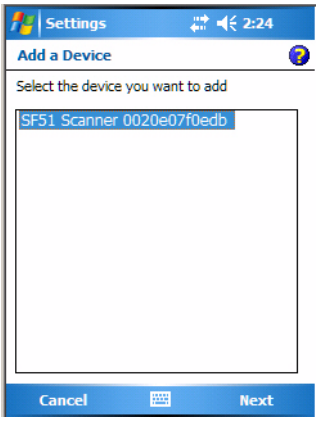
To connect to other devices or allow other devices to connect with your computer


Settings
2:22
ok
Bluetooth
To connect to a device, tap New Outgoing Port. To allow other devices to connect, tap New Incoming Port. For other options, tap and hold an existing port.
New Outgoing Port
New Incoming Port
Mode
Devices
COM Ports

1 Tap **New Outgoing Port** to connection to a Bluetooth device.

2 Select the device to add.

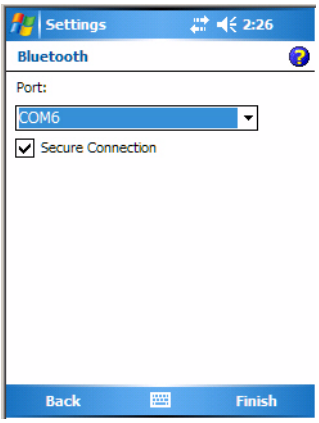
3 Click **Next**.



4 Select a port from the **Port** drop-down list.

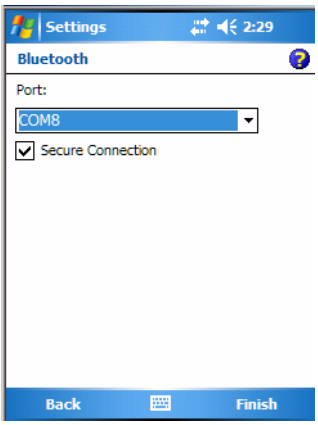
5 Check **Secure Connection**.

6 Click **Finish** to return to the COM Ports page.

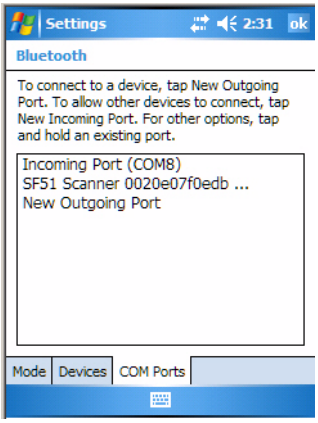


7 Tap **New Incoming Port** to allow other Bluetooth devices to connect with your CK60.

8 Select on which port to secure this connection, then click **Finish** to return to the COM Ports page.



9 You can press and hold on a device to either edit that device or delete it from the list.


Settings
2:31
ok
Bluetooth
To connect to a device, tap New Outgoing Port. To allow other devices to connect, tap New Incoming Port. For other options, tap and hold an existing port.
Incoming Port (COM8)
SF51 Scanner 0020e07f0edb ...
New Outgoing Port
Mode
Devices
COM Ports

Wireless Printing

The Wireless Printing applet separates the task of wireless printing from other Bluetooth management items not relevant to this task.

Wireless Printing has a concept of the "current wireless printer." This printer is the one to which the CK60 makes a connection when the wireless printing COM port is opened. If there is no current wireless printer, there is no wireless printing COM port. Registration and deregistration of this COM port is controlled by the Bluetooth COM port control. Use the Wireless Printing applet to handle the COM port registration. Customer software or other test applications can also use this applet to manage the COM port registration and deregistration.

The current wireless printer is stored in the registry and is registered and deregistered on Bluetooth stack load/unload. If the current wireless printer changes, the existing wireless printing COM port is deregistered, and the

new one is registered instead. The registered COM port is stored in the registry as the "WPort."

For information on using Bluetooth communications, see the Bluetooth Resource Kit in the IDL, which is available as a download from the Intermec web site at www.intermec.com. Contact your Intermec representative for more information.

Use any of the following methods to set the wireless printer:

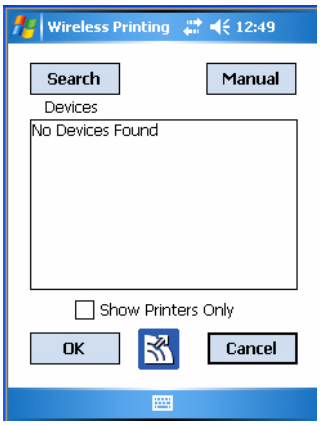
- Use a Bluetooth device search to locate the remote device (page 119)
- Manually enter the remote Bluetooth Device Address (page 120)
- Use Current Wireless Printer to set a different printer (page 121)

To do a Bluetooth device search

1 Select **Start** > **Settings** > the **System** tab > the **Wireless Printing** icon.

2 Clear (uncheck) **Show Printers Only** if you want to find more than just the Bluetooth printers.

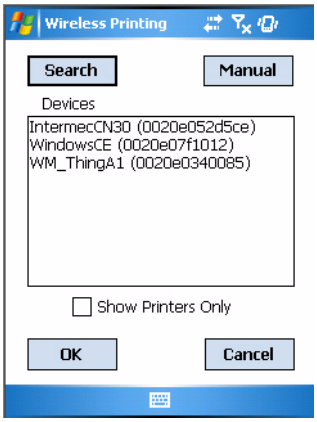
3 Tap **Search** to initiate the device search.



4 In about half a minute, Bluetooth devices found within your range appear. If your preferred printer is in the list, select to highlight the printer, then tap **OK**.

5 If you do not see your preferred device, make sure this device is powered on and set to search, then tap **Search** again.

6 Tap **Cancel** to return to the first screen without making changes.

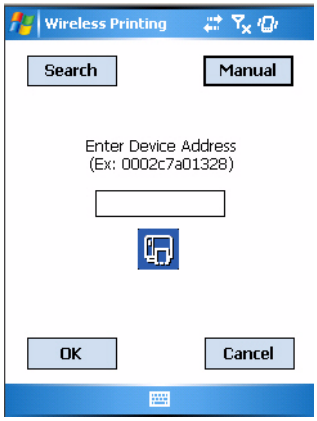


To avoid Device Search and perform a manual setup

1 Select **Start** > **Settings** > the **System** tab > the **Wireless Printing** icon.

2 Tap **Manual**, enter the address of your device in the field, then tap **OK**.

3 Tap **Cancel** to return to the first screen without making changes.

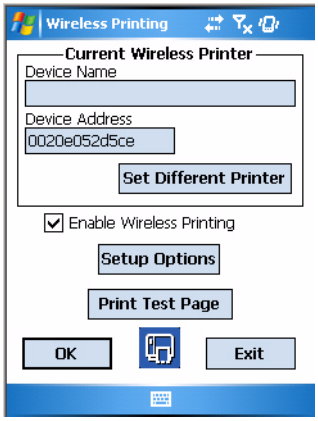


When you set your printer manually, your device may not receive the printer name. Therefore, "-unknown-" can display under **Device Name** unless you enter the correct value in to the registry in some other way.

To change your printer

1 Select **Start** > **Settings** > the **System** tab > the **Wireless Printing** icon.

2 Tap **Set Different Printer** to return to the device search screen.



3 Tap either **Search** or **Manual**.

4 Tap **OK**, then do the applicable steps.

5 Tap **Cancel** to the current wireless printer settings without making changes.

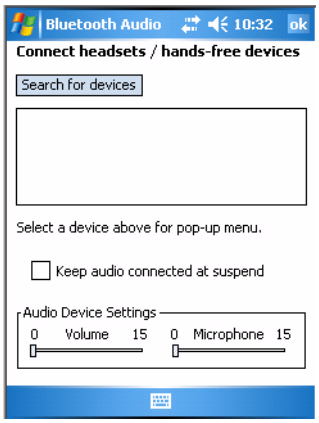
6 Tap **Exit** to close the applet.

Bluetooth Audio

Use this to find, activate, and connect to Bluetooth audio devices, such as Bluetooth headsets. You can select a desired audio mode or control the audio volume and amplification for the connected Bluetooth headset (if the connected headset has these capabilities).

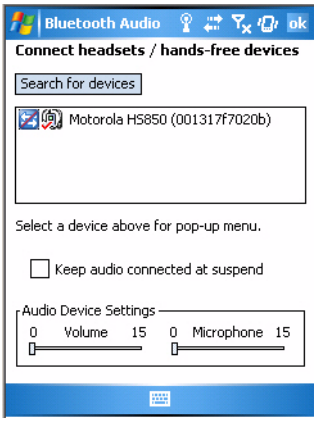
To access the Bluetooth Audio applet

- Select **Start** > **Settings** > the **System** tab > the **Bluetooth Audio** icon.



To find a Bluetooth headset with either a "headset" or a "hands-free" profile

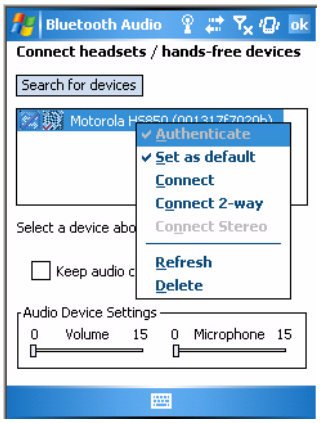
- Tap **Search for devices**. Audio devices that are found are added to the list with an icon to identify either profile.



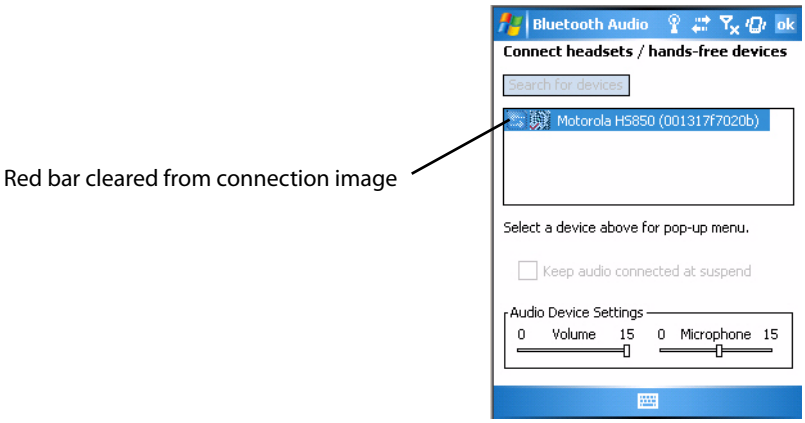
To connect to a Bluetooth Headset

Note: You can only select one Bluetooth audio device.

1. Tap a Bluetooth audio device from the list of found devices.
2. When a pop-up menu appears and if the device selected was not authenticated during the search, select **Authenticate** to continue.



3 Tap the device name, then select **Connect** from the pop-up menu. On successful device activation, the device icon changes to remove the red bar from the left connection image.



- Tap the **Volume** slider bar to adjust the volume of the connected Bluetooth audio device.
- Tap the **Microphone** slider bar to adjust the microphone gain of the connected Bluetooth audio device.

4 If the activated device has a “hands-free” profile, press a button on the device to establish an audio connection between the CK60 and the activated device. *See the user manual for the Bluetooth device for information on what button to press.*

5 To establish an audio connection from the CK60 to the activated device with either a “headset” or “hands-free” profile, tap the device name, then select **Connect** from the menu. When connection is established, the “connected/disconnected” status changes to that of a “connected” status.

Configuring Bluetooth Using Intermec Settings

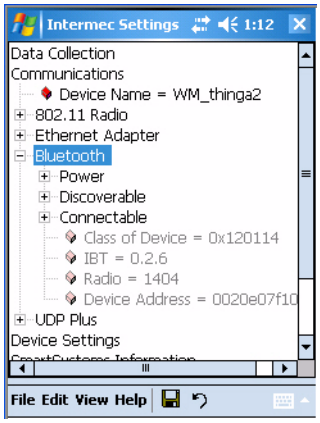
You can also configure your Bluetooth communications using the Intermec Settings applet.

To configure Bluetooth using the Intermec Settings applet

1 Select **Start** > **Settings** > the **System** tab > the **Intermec Settings** icon.

2 Tap (+) to expand **Communications**.

3 Tap (+) to expand **Bluetooth** to configure its settings.



Connecting with Bluetooth

Note: While these instructions apply to many Bluetooth devices, these instructions use the Nokia 3650 for example purposes.

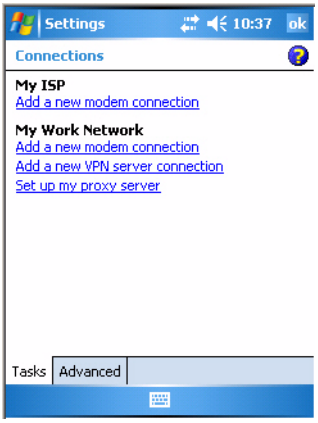
Make sure Bluetooth is enabled on your mobile phone. For example, with the Nokia 3650, go to its menu, select **Connect** > **Bluetooth**, then set **My phone's visibility** to "Shown to all."

Before you connect to the network, make sure Bluetooth is enabled on your CK60 so you can find and connect to remote devices. Go to "Personal Area Networks" on page 114 for information.

To establish a Bluetooth connection between your CK60 and your mobile phone

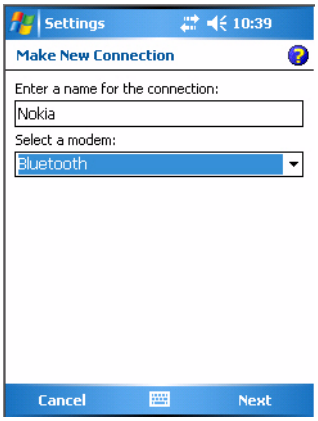
1 Tap **Start** > **Settings** > the **Connections** tab > the **Connections** icon.

2 Tap **Add a new modem connection**.



3 Enter a name for the connection, such as "Nokia."

4 In the **Select a modem** list, select "Bluetooth," then tap **Next** to continue.

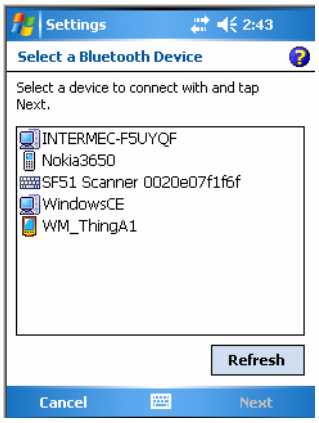


5 Tap **Add new device...** if the phone is not listed in the known devices. Make sure your Bluetooth device is turned on before you start the search.

Settings
10:40
My Connections
Select the Bluetooth device you want to use to connect to a network. Tap New to add a new device.
Add new device...
Back
Next

To establish a dial-up networking session with your wireless network

1 When the search for devices is complete, select your Bluetooth device, then tap **Next** to continue.

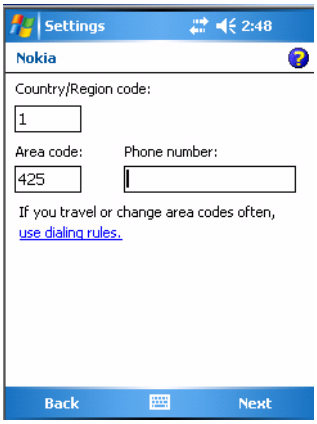


2 Enter the correct **Passkey** on both the Bluetooth device and the CK60, then tap **Next** to continue.

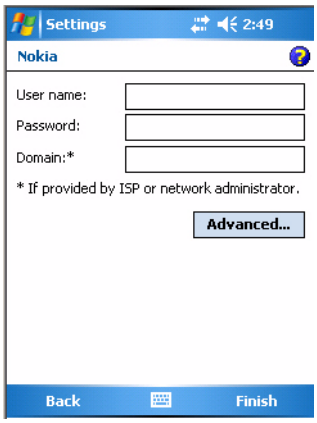
3 Enter a name for the device if needed, or select what services to use, then tap **Finish**.

4 Select the Bluetooth device to use to connect to the network, then tap **Next** to continue.

5 Enter the appropriate number as it should be dialed for your Bluetooth connection, then tap **Next** to continue.



6 Enter the user name, password, and domain required for your Bluetooth device, then tap **Finish**.



Now you can establish a connection to your network via the Internet Explorer application. To disconnect, tap the Connectivity icon in the top menu bar, then select **Disconnect**.

Local Area Networks

Note: The 802.11a radio is an extra cost option not supported on all CK60s. Contact your Intermec representative for more information.

The CK60 is a versatile mobile computer that you can add to your wired or wireless data collection network. You can connect your CK60 to your network using any of these communications:

- Serial
- 802.11a/b/g radio
- Ethernet
- Bluetooth™ radio

Configuring Serial Communications

The CK60 has a serial port to transfer data to and receive data from another device via RS-232 communications. You can also insert the CK60 into a communications dock to transmit data to and receive data from a host computer or PC using RS-232 communications. The serial cable and the communications dock are sold separately. For more information, see "Accessories for the CK60" on page 26.

To use serial communications with your CK60, connect the CK60 to the serial port of another device, by:

- connecting the CK60 Serial Port to the serial port of the other device using the 26-pin to DB9-pin serial cable adapter and a female-to-female null modem RS-232 cable;
- connecting the dock to the serial port of the other device using a DB9-pin to DB9-pin serial adapter cable, then insert the CK60 into the dock; or
- connecting a USB cable between the USB connector in the back of the dock and your desktop computer.

Configuring 802.11a/b/g Radio Communications

Caution

Make sure all components with antennas are at least 30 cm (1 ft) aport when power is applied. Failure to comply could result in equipment damage.

The wireless CK60 has an internal 802.11a/b/g radio to transfer data using wireless communications. This section of the manual assumes that you have already set up your wireless communications network including access points. If you are using a UDP Plus network, you also need to have an Intermec Application Server communicating with a host computer.

Your CK60 supports TCP/IP and UDP Plus network protocols.

Configuring the Network Parameters for a TCP/IP Network

In a TCP/IP network, the CK60 communicates with a host computer directly using TCP/IP. The access point acts as a bridge to allow communications between the wired and wireless networks.

1 Configure the infrastructure mode, network name (SSID), host IP address, and IP settings (if not using DHCP) on each CK60 in the network.

2 Configure security. For help, see "Configuring Security" on page 141.

Configuring the Network Parameters for a UDP Plus Network

In a UDP Plus network, the CK60 communications with a host computer through the Intermec Application Server. The Intermec Application Server translates UDP Plus packets on the wireless network into TCP/IP packets on the wired network and vice versa. The access point acts as a bridge to allow communications between wired and wireless networks.

1 Configure the network name (SSID), controller IP address, IP settings (if not using DHCP), and controller port (set to 5555) on each CK60 in the network.

2 Configure security. For help, see "Configuring Security" on page 141.

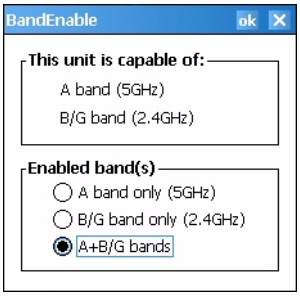
The easiest way to configure the network parameters on the CK60 is to use the Intermec Settings applet. For help, see "Using the Intermec Settings Applet" on page 15.

Controlling the 802.11 Radio Usage

The CK60 is able to support 802.11 radio usage of either the A-band (5GHz) or the B/G-band (2.4GHz).

To determine which band your CK60 is supporting

- Tap **Start** > **Settings** > the **System** tab > the **BandEnable** icon.



To change the band to enable

- Select the desired band, tap **ok**, then perform a warm-boot for the new setting to take effect.

Your CK60 may be capable of using both bands or just the B/G band. The BandEnable applet can enable or mask usage of any band the CK60 is capable of using. The band setting defaults to enable all available bands. At least one band must be enabled.

To read the current enabled operating bands, call DeviceIoControl using IOCTL_NDISUIO_QUERY_OID_VALUE with the parameter OID_GET_BAND. This returns the enabled bands masked by what the CK60 supports.

Note: If "Registry Restore" is enabled, you must flush the registry before cold-booting or the change will be lost.

Configuring Ethernet Communications

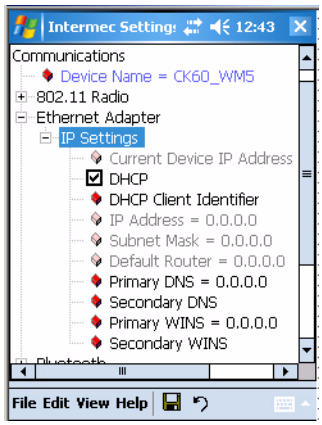
You can use the CK60 directly in an Ethernet network if you have ordered the Ethernet option on your CK60 and you insert it into a dock. The communications dock as an Ethernet connector makes it possible for the CK60 to communicate with your Ethernet network.

To use the CK60 in an Ethernet network, configure the Network Name (SSID), Host IP Address, IP Settings (if not using DHCP), and Network Port parameters on each CK60 in the network. If required for your network, set the Primary and Secondary DNS Server and Primary and Secondary WINS Server parameters on each CK60 in the network.

To configure your Ethernet adapter using the Intermec Settings applet

1 Select **Start** > **Settings** > the **System** tab > the **Intermec Settings** icon.

2 Tap (+) to expand **Communications** > **Ethernet Adapter** > **IP Settings**.



AutoIP/DHCP

Automatic Private IP Addressing (AutoIP) is enabled by default in Windows Mobile. To remain compatible with other versions of Windows Mobile, enable this setting. You can configure the registry settings in the following to set the required AutoIP/DHCP behavior:

```
HKEY_LOCAL_MACHINE\Comm\PRISMNDS1\TcpIp
```

Other registry keys that modify the behavior of AutoIP are as follows. You can find the appropriate settings and behavior of each of the AutoInterval, AutoIP, AutoMask, AutoSeed, and AutoSubnet keys in Microsoft Help.

When a TCP/IP client cannot find a DHCP server, it generates an AutoIP address from the 169.254.xxx.xxx block. The client then tries to check for a DHCP server every 15 seconds and if a DHCP server is found, the client drops the AutoIP address and uses the address from the DHCP server.

To disable AutoIP, set the AutoCfg registry entry to "0." If a DHCP server cannot be found, instead of using AutoIP, the system will display the "Unable to obtain a server assigned IP address" message.

Note: If you try to disable AutoIP using a CAB file to set the registry value for AutoIP, set the EnableDHCP value to "1" to keep DHCP enabled.

Note: Use DhcpRetryDialogue and DhcpMaxRetry registry settings to extend the number of attempts a DHCP client makes to get a DHCP address.

Note: Change the AutoInterval registry key value to make the client retry more often to obtain a DHCP address.

Wide Area Networks

The CK60 does not support wide area networks.

Remote Access (Modems)

You can set up connections to the Internet and corporate network at work to browse the Internet or intranet, send and receive e-mail, and synchronize information using ActiveSync. Connections are made via wireless networks.

Your CK60 has two groups of connection settings: My ISP and My Work Network. Use My ISP settings to connect to the Internet. Use My Work Network settings to connect to any private network.

- My ISP: Once connected, you can send and receive e-mail messages by using Messaging and view Web or WAP pages by using Internet Explorer Mobile. The communication software for creating an ISP connection is already installed on your CK60. Your service provider provides the software needed to install other services, such as paging and fax services. If this is the method you want to use, see **"Connecting to an Internet Service Provider" on page 132**.
- My Work Network: Connect to the network at your company or organization where you work. Once connected, you can send and receive e-mail messages by using Messaging, view Web or WAP pages by using Internet Explorer Mobile, and synchronize with your desktop. If this is the method you want to use, see **"Connecting to Work" on page 134**.

Connecting to an Internet Service Provider

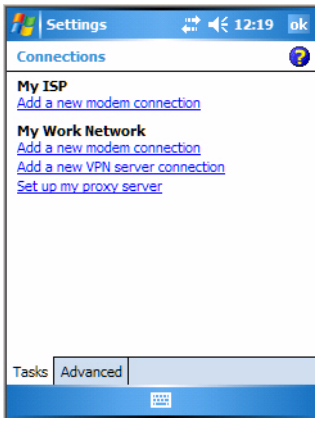
You can connect to your ISP, and use the connection to send and receive e–mail messages and view Web or WAP pages. Get an ISP dial-up access telephone number, a user name, and a password from your ISP.

To view additional information for any screen in the wizard or while changing settings, tap the **Help** icon.

To connect to an Internet service provider

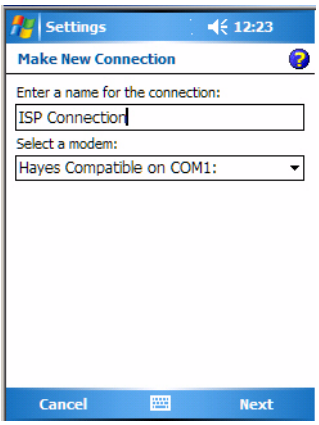
1 Tap **Start** > **Settings** > the **Connections** icon.

2 In **My ISP**, tap **Add a new modem connection**.

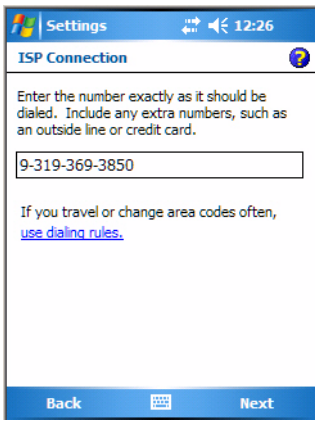


3 Enter a name for the connection, such as “ISP Connection.”

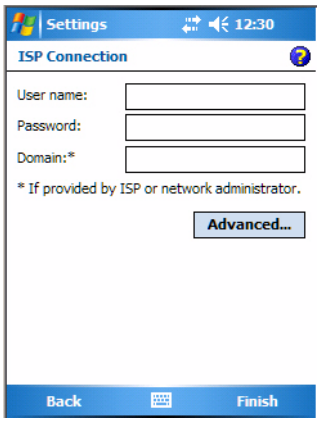
If using an external modem connected to your CK60 with a cable, select “Hayes Compatible on COM1” from the **Select a modem list** drop-down, then tap **Next** to continue.



4 Enter the access phone number, then tap **Next**. For more information, tap **use dialing rules**.

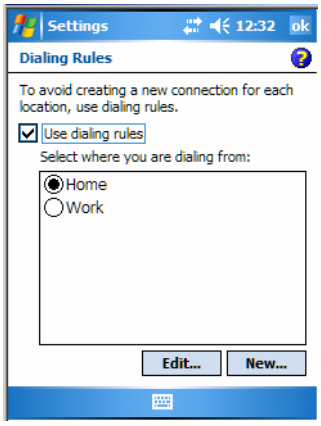

Settings
12:26
ISP Connection
Enter the number exactly as it should be dialed. Include any extra numbers, such as an outside line or credit card.
9-319-369-3850
If you travel or change area codes often,
use dialing rules.
Back
Next

5 Enter the user name, password, and domain (if provided by an ISP or your network administrator), then tap **Finish**.

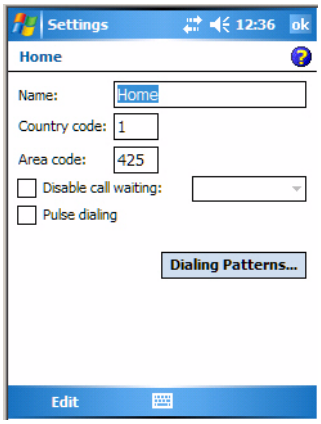


6 Tap the **Advanced** tab from the Connections screen, then tap **Dialing Rules** to specify your current location. These settings apply to all connections.

7 Tap **Use dialing rules**, tap **OK**, then tap **Edit** to continue.



8 Specify your current phone type. If your phone type is pulse dialing, check **Pulse dialing**. If your type is tone dialing (as most phone lines are), then clear (uncheck) **Pulse dialing**. Continue to tap **ok** to close each page and return to the Settings page.



To start the connection, start using one of the following programs. Once connected, you can:

- Send and receive e-mail messages by using Messaging. Before you can use Messaging, you need to provide the information it needs to communicate with the e-mail server.
- Visit Web and WAP pages by using Internet Explorer Mobile. For more information, see "Internet Explorer Mobile" on page 74.

Note: To change modem connection settings in My ISP, tap **Manage existing connections**. Select the desired modem connection, tap **Settings**, then follow the instructions on the screen.

Connecting to Work

If you have access to a network at work, you can send e-mail messages, view intranet pages, synchronize your CK60, and possibly access the Internet. Create a modem connection via a RAS (Remote Access Server) account. Before you can create this modem connection, your network administrator needs to set up a RAS account for you. Your network administrator may also give you Virtual Private Network (VPN) settings.

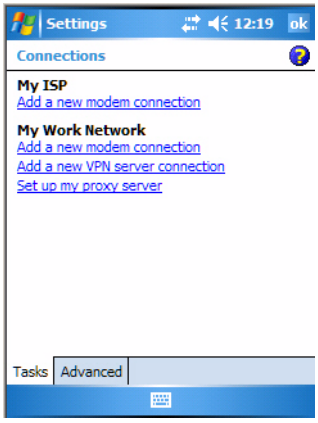
Note: To change modem connection settings in My Work Network, tap **Manage existing connections**. Select the desired modem connection, tap **Settings**, then follow the instructions on the screen.

To view additional information for any screen in the wizard or while changing settings, tap the **Help** icon.

To add a new modem connection

1 Tap **Start** > **Settings** > the **Connections** icon.

2 In My Work Network, tap **Add a new modem connection**.

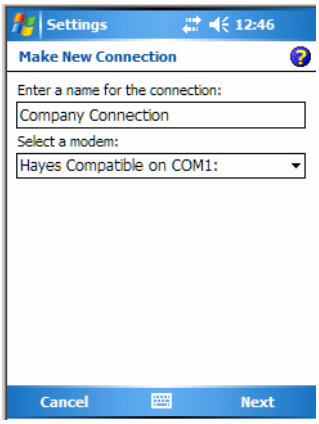


3 Enter a name for the connection, such as "Company Connection."

4 Select your modem type from the **Select a modem** list, then tap **Next** to continue.

If your modem type does not appear, try reinserting your CK60 into your modem dock.

- If using an external modem connected to your CK60 with a cable, select "Hayes Compatible on COM1."
- If using any type of external modem, select the modem by name. If a listing does not exist for your external modem, select "Hayes Compatible on COM1."



5 Enter the access phone number, using some of the following guidelines. If you know part of the phone number changes frequently as you travel, create dialing rules to avoid creating numerous modem connections for the same phone number. For more information, tap **use dialing rules**.

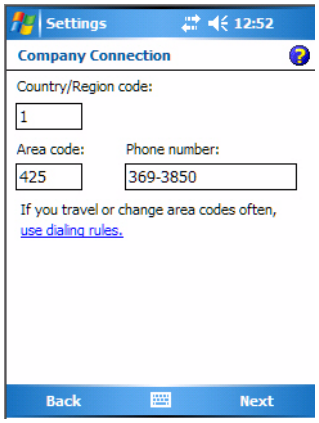
- Enter the phone number exactly as you want it dialed. For example, if you call from a business complex or hotel that requires a nine before dialing out, enter "9" in front of the phone number.

- Enter the APN provided by your mobile phone service provider.
- When using dialing rules, phone numbers are entered differently. To use additional numbers, such as a "9" to dial from an office complex or hotel, you must use additional dialing rules or change dialing patterns. See "Create Dialing Rules" via your online help for information.

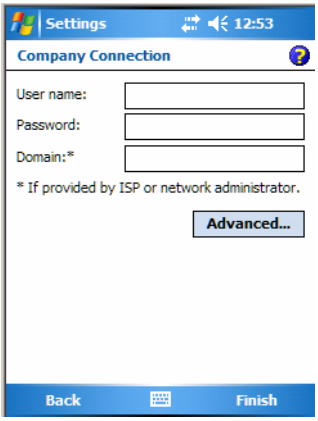
a In **Country/Region code**, enter the appropriate code when dialing internationally. For more information, contact an operator at your local phone company.

b In **Area code**, enter the area code, if needed.

c Enter the **Phone Number**, then tap **Next** to continue.



4 Enter the user name, password, and domain (if provided by an ISP or your network administrator). If a domain name was not provided, try the connection without entering a domain name. Tap **Finish**.



Creating a VPN Server Connection to Work

A VPN connection helps you to securely connect to servers, such as a corporate network, via the Internet. Ask your network administrator for the following: user name, password, domain name, TCP/IP settings, and host name or IP address of the VPN server

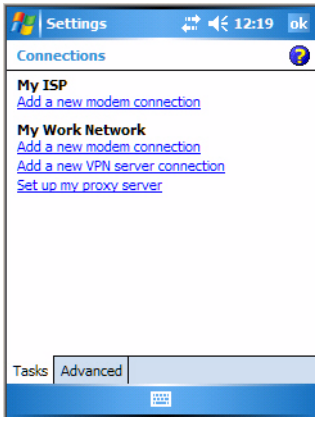
To view additional information for any screen in the wizard or while changing settings, tap the **Help** icon.

Note: To change existing settings in My Work Network, tap **Manage existing connections** > the **VPN** tab. Select the desired VPN connection, tap **Settings**, then follow the instructions on the screen.

To add a new VPN server connection

1 Tap **Start** > **Settings** > the **Connections** icon.

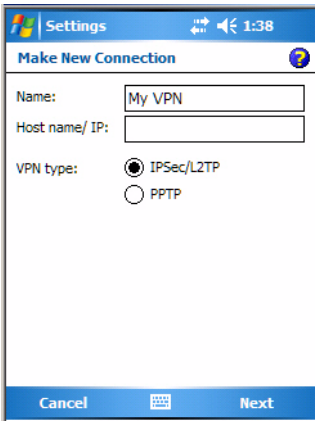
2 In **My Work Network**, tap **Add a new VPN server connection**.



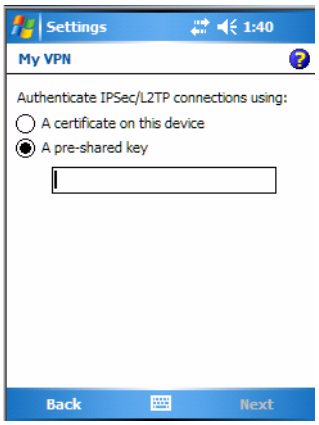
3 In **Name**, enter a name for the connection, such as a company's name.

4 In **Host name/ IP**, enter the VPN server name or IP address.

5 Next to **VPN type**, select the type of authentication to use with your device: "IPSec/L2TP" or "PPTP." If you are not sure which option to choose, ask your network administrator. Tap **Next** to continue.

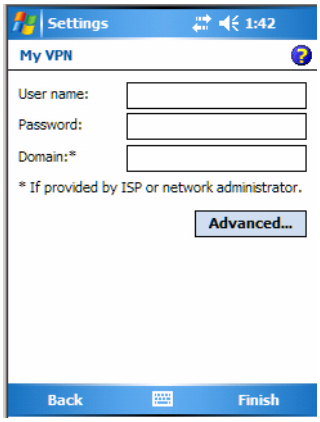


6 Select the type of authentication. If you select **A pre-shared key**, enter the key provided by your network administrator.



7 Enter your user name, password, and domain name as provided by your ISP or network administrator, then tap **Finish**. If a domain name was not provided, try the connection without entering a domain name.

8 Insert necessary equipment, such as a network (Ethernet) card, into the CK60, and use a desired program to begin connecting.



Ending a Connection

- When connected via modem or VPN, tap the **Connectivity** icon on the top, then tap **Disconnect**.
- When connected via cable or cradle, detach your CK60.
- When connected via Infrared, move the CK60 away from the other computer or device.
- When connected via a wireless network, switch off the connection.

iConnect

The default network adapter or radio is dependent on what radios are installed in your CK60. With the iConnect menu, using the **Enable** feature, you can specify "802.11b," "Ethernet," or "No Networking" to load onto your CK60 when a cold-boot is performed.

If you had specified a network prior to when a warm-boot is performed on the CK60, the iConnect application restores your network interfaces to what they were before the warm-boot was performed.

See the Developer's Support area of the Intermec web site for the latest information on network adapters for your unit.

To access the iConnect menu, tap the **iConnect** icon *(shown to the left)* above your command bar for the following menu:

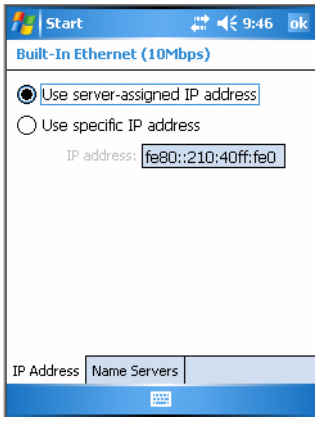
- Select **Dismiss** from the iConnect menu to end the session without exiting the application.
- Select **Exit iConnect** to exit the application. To access the iConnect application after you have exited it, perform a warm-boot on the CK60. The **iConnect** icon then reappears above the command bar.

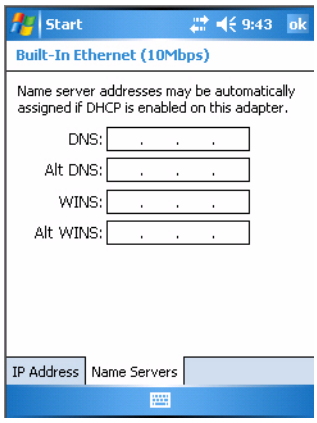
Ethernet Communications

If your system does not contain an 802.11a/b/g radio, then **Ethernet networking using DHCP** is selected as the default.

To view information about the Ethernet communications

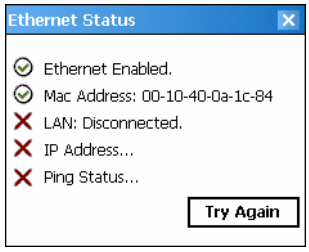
- Select **Tools > Ethernet IP Settings** from the iConnect menu for the following:





To view the status of the Ethernet communications

- Select **Status** > **Ethernet** from the iConnect menu for the following. Tap **Try Again** to check the status after you make changes to the connection.



No Networking

When you select **Enable** > **No Networking** from the iConnect menu, neither icon appears in the toolbar.

Wireless 802.11b Communications

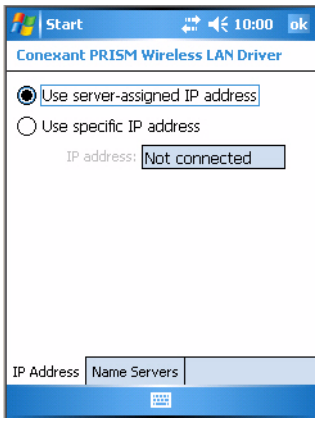
Note: You can configure wireless 802.11b communications through the applet. Tap **Start** > **Settings** > the **System tab** > the **Wireless Network** icon to access the Profile Wizard. Go to "Configuring Microsoft Security" on page 159 for information.

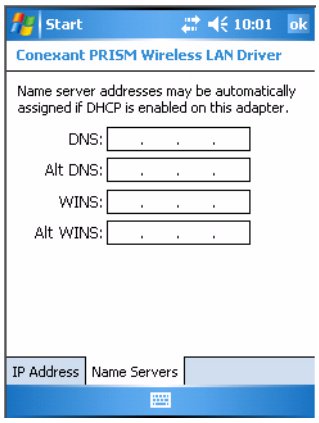
To configure wireless 802.11b communications on the CK60

- Select **Tools** > **Wireless Settings** from the iConnect menu to access the Profile Wizard for the 802.11a/b/g radio module.

To view information about the Wireless 802.11b communications

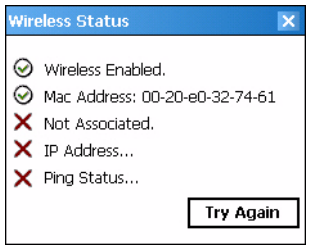
- Select **Tools** > **Wireless IP Settings** from the iConnect menu for the following:





To view the status of the Wireless communications

- Select **Status** > **Wireless** from the iConnect menu to view the status. Tap **Try Again** to check the status after you make changes to the connection.

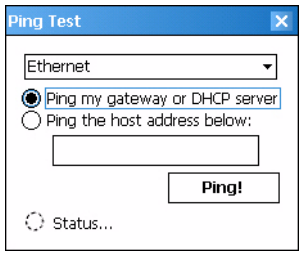


Testing Your Network Connections

Use the Ping Test feature to test the connection of your CK60 against your network.

To test your CK60 connection against your network

- Select **Tools** > **Ping Test** from the iConnect menu.
- If you want to ping your gateway or DHCP server, select **Ping my gateway or DHCP server**, then select which to ping from the top drop-down list.
- If you want to ping a specific host, select **Ping the host address below**, then enter its IP address in the field beneath.
- After you make your selection, tap **Ping!** and wait for results.



Configuring Security

Use the next sections to understand how to configure each type of security on your wireless CK60.

The CK60 provides three types of security for your wireless network: Wi-Fi Protected Access 2 (WPA2/802.11i), WPA, and WEP. 802.1x should be referred to as an authentication method used for WPA and WPA2. Another authentication method for WPA and WPA2 would be the Pre-Shared Key (PSK).

Choosing Between Microsoft and Funk Security

Before you can implement a security solution on the CK60, you need to choose between Microsoft and Funk security:

- By default, Funk security is enabled. It provides everything you get with Microsoft security plus the addition of Cisco Compatible Extensions features. It also provides additional authentication types like EAP-TTLS, LEAP, and EAP-FAST.
- Microsoft security, with its Microsoft Zero Config feature, is also available. To switch to Microsoft security, go to "Configuring Microsoft Security" on page 159 to start.

Note: Your security choice does not depend on your authentication server. For example, you can choose Funk security if you use Microsoft Active Directory® to issue certificates.

Configuring Funk Security

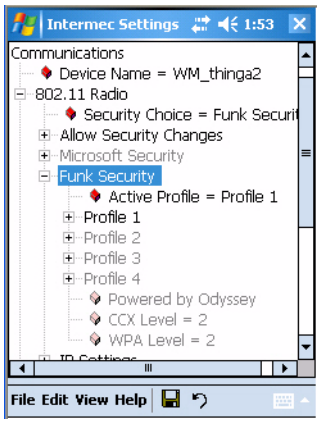
You can define up to four profiles for your Funk Odyssey security. Different profiles let your CK60 communicate in different networks without having to change all of your security settings. For example, you can set up one profile for the manufacturing floor and one for the warehouse.

To enable Funk Security

1 Select **Start** > **Settings** > the **System** tab > the **Intermec Settings** icon.

2 Tap (+) to expand **Communications** > **802.11 Radio** > **Funk Security**.

3 Select an active profile, then configure its security settings.



Using WPA Security

Wi-Fi Protected Access (WPA) is a strongly enhanced, interoperable Wi-Fi security that addresses many of the vulnerabilities of Wired Equivalent Privacy (WEP). Instead of WEP, WPA uses Temporal Key Integrity Protocol (TKIP) for its data encryption method. Currently, WPA satisfies IEEE 802.11i standards.

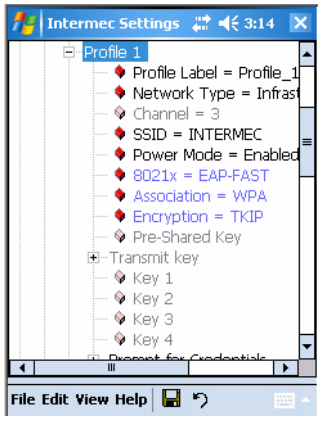
WPA runs in Enterprise (802.1x) mode or PSK mode:

- In Enterprise mode, WPA provides user authentication using 802.1x and the Extensible Authentication Protocol (EAP). That is, an authentication server (such as a RADIUS server) must authenticate each device before the device can communicate with the wireless network.
- In PSK mode, WPA provides user authentication using a shared key between the authenticator and the CK60. WPA-PSK is a good solution for small offices or home offices that do not want to use an authentication server.

To use WPA security, you need an access point with an 802.11b/g radio that supports WPA.

To configure WPA security with Funk Security

Use this procedure to set WPA security with Funk security.



1 Make sure you have configured the communications and radio parameters on your CK60 and that Funk is your security choice.

2 Open Intermec Settings. Tap (+) to expand **Communications** > **802.11 Radio** > **Funk Security** > **Profile X** with "X" being "1" through "4."

3 For **Association**, select "WPA" and press **Enter**.

4 For **8021x**, select "PEAP," "TLS," "TTLS," "LEAP," or "EAP-FAST" and press **Enter**.

If you select "TTLS" or "PEAP:"

a Select **User Name**, type your user name, then press **Enter**.

b Select **User Password**, type a user password, then press **Enter**.

c For **Validate Server Certificate**, select "Yes," then press **Enter**.

Note: You must have the date on the CK60 set correctly when you enable **Validate Server Certificate**.

d You must enter a **User Name** and **Subject Name**. You can also enter a **Server 1 Common name** or **Server 2 Common name** if you want to increase your level of security.

If you select "TLS:"

a Load a user and root certificate on your CK60. For help, see "Loading Certificates" on page 160.

b For **Validate Server Certificate**, select "Yes," then press **Enter**.

Note: You must have the date on the CK60 set correctly when you enable **Validate Server Certificate**.

c You must enter a **User Name** and **Subject Name**. You can also enter a **Server 1 Common name** or **Server 2 Common name** if you want to increase your level of security.

If you select "LEAP" or "EAP-FAST:"

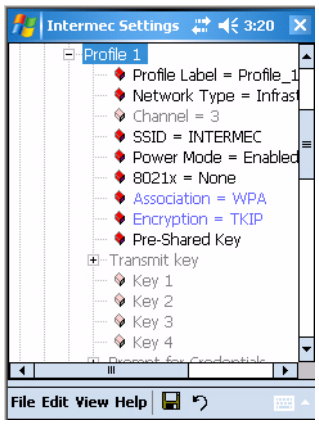
a Select **User Name**, type your user name, then press **Enter**.

b Select **User Password**, type a user password, then press **Enter**.

5 Select **File** > **Save Settings**, then select **File** > **Exit** to close the Intermec Settings applet.

To configure WPA-PSK security with Funk Security

Use this procedure to set WPA-PSK security on your CK60 with Funk security.



1 Make sure you have configured the communications and radio parameters on your CK60 and that Funk is your security choice.

2 Open Intermec Settings. Tap (+) to expand **Communications** > **802.11 Radio** > **Funk Security** > **Profile X** with "X" being "1" through "4."

3 For **Association**, select "WPA" and press **Enter**.

4 For **8021x**, select "None" and press **Enter**.

5 For **Pre-Shared Key**, enter the pre-shared key or the passphrase.

The pre-shared key must be a value of 32 hex pairs preceded by 0x for a total of 66 characters. The value must match the key value on the access point. The passphrase must be from 8 to 63 chtomaracters. After you enter a passphrase, the CK60 internally converts it to a pre-shared key. This value must match the passphrase on the authenticator.

6 Select **File** > **Save Settings**, then select **File** > **Exit** to close the Intermec Settings applet.

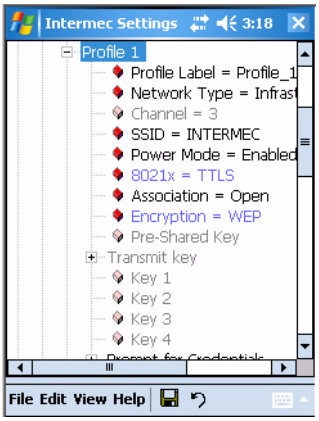
Using 802.1x Authentication

802.1x authentication provides centralized user authentication using an authentication server, authenticators (access points), and supplicants. These components communicate using an EAP authentication type, such as TLS (Transport Layer Security) or PEAP (Protected Extensible Authentication Protocol). 802.1x security provides data encryption using dynamic WEP key management. To use 802.1x security, you need:

- An access point with an 802.11b/g radio.
- A CK60 with an 802.11b/g radio and the 802.1x/WPA security option.

To configure 802.1x Security with Funk Security

Use this to set 802.1x security on the CK60 with Funk security.



1 Make sure you have configured the communications and radio parameters on your CK60 and that Funk is your security choice.

2 Open Intermec Settings. Tap (+) to expand **Communications** > **802.11 Radio** > **Funk Security** > **Profile X** with "X" being "1" through "4."

3 For **Association**, select "Open" and press **Enter**. When working with Cisco Aironet access points, you can select "Network-EAP."

4 For **Encryption**, select "WEP" and press **Enter**.

5 For **8021x**, select "PEAP," "TLS," "TTLS," "LEAP," or "EAP-FAST" and press **Enter**.

If you select "TTLS" or "PEAP:"

a Select **User Name**, type your user name, then press **Enter**.

b Select **User Password**, type a user password, then press **Enter**.

c For **Validate Server Certificate**, select "Yes," then press **Enter**.

Note: You must have the date on the CK60 set correctly when you enable **Validate Server Certificate**.

d Enter a **User Name** and **Subject Name**. You can also enter a **Server 1 Common name** or **Server 2 Common name** to increase security.

If you select "TLS:"

a Load a user and root certificate on your CK60 (see page 160).

b For **Validate Server Certificate**, select "Yes," then press **Enter**.

Note: You must have the date on the CK60 set correctly when you enable **Validate Server Certificate**.

c You must enter a **User Name** and **Subject Name**. You can also enter a **Server 1 Common name** or **Server 2 Common name** if you want to increase your level of security.

If you select "LEAP" or "EAP-FAST:"

a Select **User Name**, then type your user name.

b Press **Enter**.

c Select User Password, then type a user password.

d Press **Enter**.

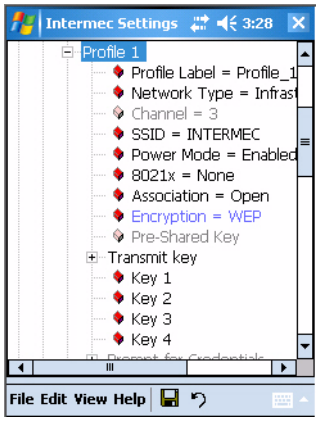
6 Select **File** > **Save Settings**, then select **File** > **Exit** to close the Intermec Settings applet.

Using Static WEP Security

The CK60 uses the Wired Equivalent Privacy (WEP) protocol to add security to your wireless network based on the 802.11b/g standard. To use WEP security, you need an access point with an 802.11b/g radio.

To configure static WEP Security with Funk Security

Use this procedure to set Static WEP security with Funk security.



1 Make sure you have configured the communications and radio parameters on your CK60 and that Funk is your security choice.

2 Open Intermec Settings. Tap (+) to expand **Communications** > **802.11 Radio** > **Funk Security** > **Profile X** with "X" being "1" through "4.".

3 For **Association**, select "Open" and press **Enter**.

4 For **Encryption**, select "WEP" and press **Enter**.

5 For **8021x**, select "None" and press **Enter**.

7 For **Transmit key**, select which WEP key to use for encryption of transmitted data.

8 Define a value for each key, up to four. Enter an ASCII key or a hex key either 5 or 13 bytes long based on the radio capability. Set a 5-byte value for 64-bit WEP or a 13-byte value for 128-bit WEP. Precede hex keys with 0x and make sure the keys use 5 or 13 hex pairs.

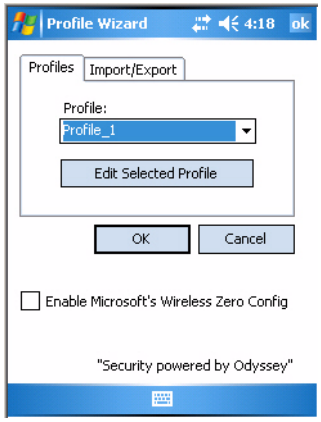
To start 802.11b/g communications using the Profile Wizard

- Tap **Start** > **Settings** > the **System** tab > the **Wireless Network** icon.

A profile contains all the information necessary to authenticate you to the network, such as login name, password or certificate, and protocols by which you are authenticated.

You can have up to four profiles for different networks. For example, you may have different login names or passwords on different networks, or you may use a password on one network, and a certificate on another.

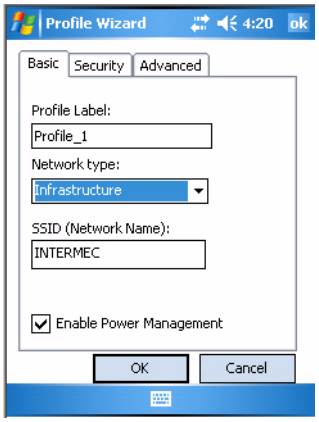
Use the Profiles page to select and configure between the networking environments assigned to this 802.11b/g radio.



Profile	Tap the drop-down list to choose between four different profiles assigned to this unit, then tap **Edit Select Profile**, make the changes needed for this profile (starting on the next page), then tap **ok** to return to the Profiles page.
Enable Microsoft's Wireless Zero Config	Check this to enable Microsoft's Wireless Zero Config application and disable the Intermec software solution for 802.11b/g, including configuration via the Wireless Network applet.

To set the information for this profile

- Use the Basic page to set the network type, name, and manage battery power for this profile. Tap **ok** to return to the Profiles page.



Profile Label	Enter a unique name for your profile.
Network type	Tap the list to select “Infrastructure” if the network uses access points to connect to the corporate network or internet; or “Ad-Hoc” to set up a private network with one or more participants.
Channel	If you select “Ad-Hoc” for the network type, select the channel on which you are communicating with others in your network. There are up to 11 channels available.
SSID (Network Name)	This assumes the profile name unless another name is entered in this field. If you want to connect to the next available network or are not familiar with the network name, enter “ANY" in this field. Consult your LAN administrator for network names.
Enable Power Management:	Check this box to conserve battery power (default), or clear this box to disable this feature.

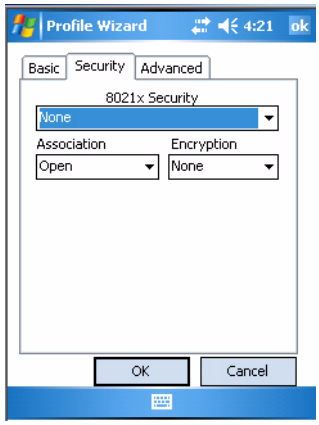
Security

These are available from the **8021x Security** drop-down list:

- None
- PEAP (page 150)
- TLS (page 152)
- TTLS (page 153)
- LEAP (page 156)
- EAP-FAST (page 157)

To disable 802.1x security and enable WEP encryption

- Set **8021x Security** as "None," **Association** to "Open," and **Encryption** to "None."

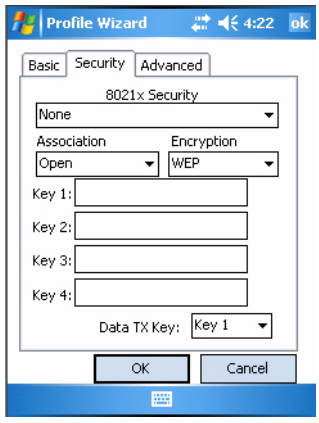


To enable WEP encryption

1. Set **8021x Security** as "None" and **Association** to "Open" or "Shared" as required to match the settings in your access point.

Note: "Open" is the recommended choice as the "Shared" key authentication has security weaknesses.

2. Set **Encryption** to "WEP."
3. Select a data transmission key from the **Data TX Key** drop-down list near the bottom of this screen.
4. Enter an ASCII key or a hex key either 5 or 13 bytes long based on the radio capability in the appropriate **Key #** field. Set a 5-byte value for 64-bit WEP or a 13-byte value for 128-bit WEP. Precede hex keys with 0x and make sure the keys use 5 or 13 hex pairs.

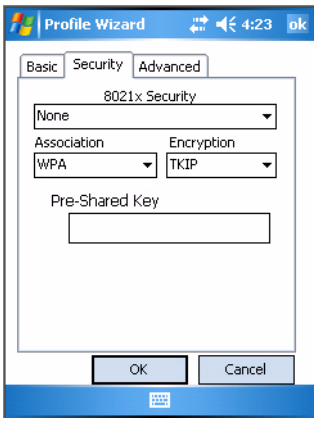


To enable WPA encryption using a pre-shared key

1 Set **8021x Security** as "None."

2 Set **Association** to "WPA."

3 Enter the passphrase as ASCII (12345) in the **Pre-Shared Key** field.



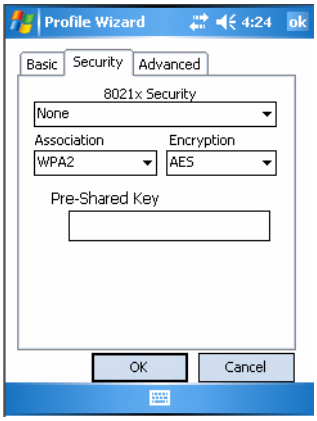
To enable WPA2 encryption using a preshared key

1 Set **8021x Security** as "None."

2 Set **Association** to "WPA2."

3 Set **Encryption** to either "TKIP" or "AES."

4 Enter the passphrase as ASCII (12345) in the **Pre-Shared Key** field.

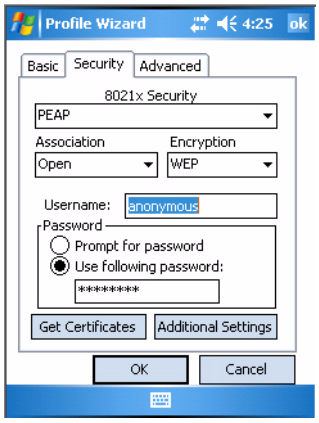


PEAP (Protected EAP)

This protocol performs secure authentication against Windows domains and directory services. It is comparable to EAP-TTLS (see page 153), both in its method of operation and its security, though not as flexible. This does not support the range of inside-the-tunnel authentication methods supported by EAP-TTLS. Microsoft and Cisco both support this protocol.

Use "PEAP" to configure the use of PEAP as an authentication protocol and to select "Open," "WPA," "WPA2," or "Network EAP" as an association mode.

To configure using PEAP



1 Set **8021x Security** as "PEAP," then choose any of the following:

- Set **Association** to "Open."
- Set **Association** to "WPA."
- Set **Association** to "WPA2" and **Encryption** to "TKIP" or "AES."
- Set **Association** to "Network EAP" and **Encryption** to either "WEP" or "CKIP."

2 Enter your unique **Username** and password to use this protocol.

3 Select **Prompt for password** to have the user enter this password each time to access the protocol; or leave **Use following password** as selected and enter your unique password to use the protocol without entering a password each time you use your CK60.

4 Tap **Get Certificates** to obtain or import server certificates (page 155).

5 Tap **Additional Settings** to assign an inner PEAP authentication and set options for server certificate validation and trust.

Additional PEAP Settings

1 Select a method from the **Inner PEAP Authentication** drop-down list.

Inner PEAP Authentication Methods

Method	Definition
EAP/MS-CHAP-V2	Authenticates against a Windows Domain Controller and other non-Windows user databases. This is Microsoft's implementation of PEAP.
EAP/Token Card	Use with token cards. The password value entered is never cached. This is Cisco's implementation of PEAP.
EAP/MD5-Challenge	Message Digest 5. A secure hashing authentication algorithm.

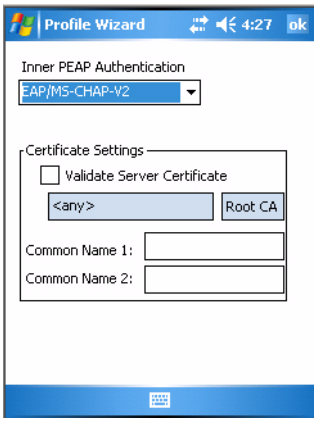
2 Check **Validate Server Certificate** to verify the identity of the authentication server based on its certificate when using PEAP.

3 Tap **Root CA**, select a root certificate, then **OK** to close.

4 Enter the **Common Names** of trusted servers.

Note: If these fields are left blank, the client will accept any authentication server with a valid certificate. For increased security, you should specify exactly which authentication servers you expect to use.

5 Tap **ok** to return to the Security page.



TLS (EAP-TLS)

EAP-TLS is a protocol that is based on the TLS (Transport Layer Security) protocol widely used to secure web sites. This requires both the user and authentication server have certificates for mutual authentication. While cryptically strong, this requires corporations that deploy this to maintain a certificate infrastructure for all their users.

Use "TLS" to configure using EAP-TLS as an authentication protocol, pick "Open," "WPA," "WPA2," or "Network EAP" as an association mode.

To configure using TLS

1 Set **8021x Security** as "TLS, then choose any of the following:

- Set **Association** to "Open."
- Set **Association** to "WPA."
- Set **Association** to "WPA2" and **Encryption** to "TKIP" or "AES."

- Set **Association** to "Network EAP" and **Encryption** to either "WEP" or "CKIP."

2 Enter your unique **Subject Name** and **User Name** of the corresponding certificate installed on your CK60 to use this protocol.

3 Tap **Get Certificates** to obtain or import server certificates (page 155).

4 Tap **Additional Settings** to set server certificate validation and trust.

To configure additional TLS settings

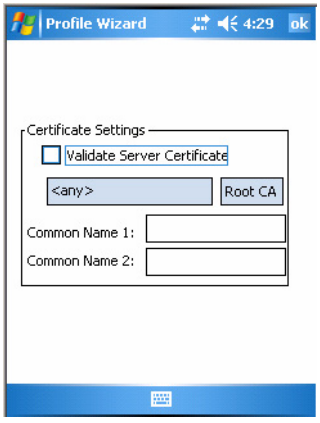
1 Check **Validate Server Certificate** to verify the identity of the authentication server based on its certificate when using TLS.

2 Tap **Root CA**, select a root certificate, then tap **OK** to return to the TLS settings.

3 Enter the **Common Names** of trusted servers.

Note: If these fields are left blank, the client will accept any authentication server with a valid certificate. For increased security, you should specify exactly which authentication servers you expect to use.

4 Tap **ok** to return to the Security page.



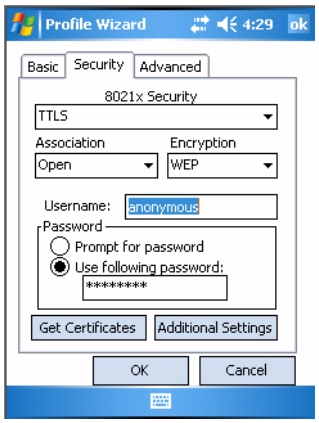
TTLS (EAP-Tunneled TLS)

This protocol provides authentication like EAP-TLS (see page 152) but does not require user certificates. User authentication is done using a password or other credentials that are transported in a securely encrypted "tunnel" established using server certificates.

EAP-TTLS works by creating a secure, encrypted tunnel through which you present your credentials to the authentication server. Thus, inside EAP-TTLS there is another *inner authentication protocol* that you must configure via Additional TTLS Settings.

Use "TTLS" to configure EAP-TTLS as an authentication protocol, select "Open," "WPA," "WPA2," or "Network EAP" as an association mode.

To configure using TTLS



1 Set **8021x Security** as "TTLS," then choose one of the following:

- Set **Association** to "Open." *(default configuration)*
- Set **Association** to "WPA."
- Set **Association** to "WPA2" and **Encryption** to "TKIP" or "AES."
- Set **Association** to "Network EAP" and **Encryption** to either "WEP" or "CKIP."

2 Enter your unique **Username** to use this protocol.

3 Select **Prompt for password** to have the user enter this password each time to access the protocol, or leave **Use following password** as selected and enter your unique password to use the protocol without entering a password each time you use your CK60.

4 Tap **Get Certificates** to obtain or import server certificates (page 155).

5 Tap **Additional Settings** to assign an inner TTLS authentication and an inner EAP, and set the server certificate validation and trust.

To configure additional TTLS settings

1 Select an authentication method from the **Inner TTLS Authentication** drop-down list.

Inner TTLS Authentication Methods

Method	Description
PAP	Password Authentication Protocol. A simple authentication protocol that sends security information in the clear.
CHAP	Challenge Handshake Authentication Protocol. Use of Radius to authenticate a terminal without sending security data in the clear. Authenticates against non-Windows user databases. *You cannot use this if authenticating against a Windows NT Domain or Active Directory.*
MS-CHAP; MS-CHAP-V2	Authenticates against a Windows Domain Controller and other non-Windows user databases.
PAP/Token Card	Use with token cards. The password value entered is never cached.
EAP	Extensible Authentication Protocol

2 If you select “EAP” for the inner authentication protocol, then select an inner EAP protocol from the **Inner EAP** drop-down list.

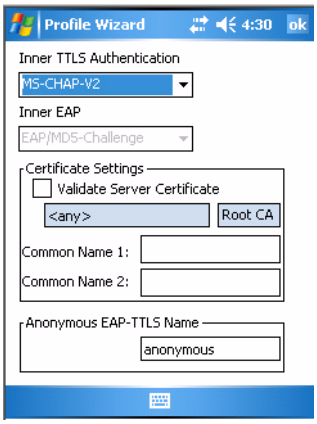
3 Enter the **Common Names** of trusted servers.

Note: If these fields are left blank, the client will accept any authentication server with a valid certificate. For increased security, you should specify exactly which authentication servers you expect to use.

4 Check **Validate Server Certificate** to verify the identity of the authentication server based on its certificate when using TTLS.

5 Tap **Root CA**, select a root certificate, then tap **OK** to return to the Inner TTLS Authentication.

6 Enter the **Anonymous EAP-TTLS Name** as assigned for public usage. Use of this outer identity protects your login name or identity. Tap **ok**.



Get Certificates

Certificates are pieces of cryptographic data that guarantee a public key is associated with a private key. They contain a public key and the entity name that owns the key. Each certificate is issued by a certificate authority. Use this page to import a certificate onto the CK60.

To select a root certificate

1 Tap the <<< button next to the **Import Root Certificate** field to select the root certificate (DER-encoded .CER file) to import.

2 Click **Import Root Cert** to install the selected certificate.

To select a user certificate

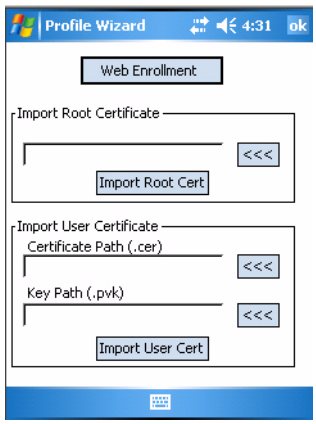
1 Tap the <<< button next to the **Certificate Path (.cer)** field to select the user certificate (DER-encoded .CER file without private key) to import.

2 Tap the <<< button next to the **Key Path (.pvk)** field to select the private key (.PVK file) which corresponds to the user certificate chosen in step 1.

3 Tap **Import User Cert** to install the selected certificate.

To obtain a user certificate from an IAS server

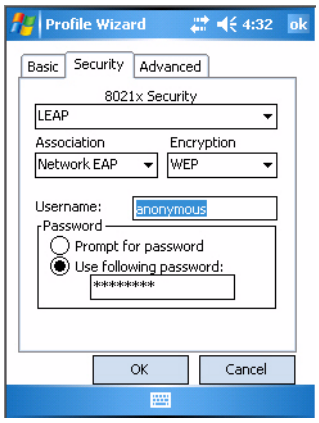
- Tap **Web Enrollment** to obtain a user certificate over the network from an IAS Server. Tap **ok** to return to the Security page.



LEAP (Cisco Lightweight EAP)

LEAP is the Cisco Lightweight version of EAP.

Use "LEAP" to configure the use of LEAP as an authentication protocol, select "Open," "WPA," "WPA2," or "Network EAP" as an association mode, or assign "Network EAP."



To configure using LEAP

1 Set **8021x Security** as "LEAP," then choose one of the following:

- Set **Association** to "Open."
- Set **Association** to "WPA."
- Set **Association** to "WPA2" and **Encryption** to "TKIP" or "AES."
- Set **Association** to "Network EAP" and **Encryption** to either "WEP" or "CKIP." *(default configuration)*

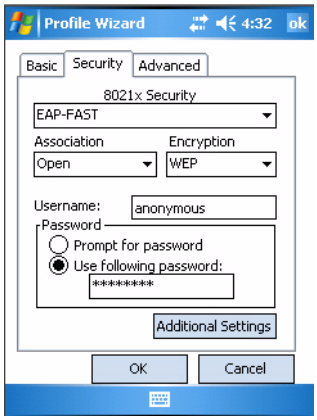
2 Enter your unique **Username** to use this protocol.

3 Select **Prompt for password** to have the user enter this password each time to access the protocol, or leave **Use following password** as selected and enter your unique password to use the protocol without entering a password each time you use your CK60.

EAP-FAST (EAP-Flexible Authentication via Secured Tunnel)

The EAP-FAST protocol is a client-server security architecture that encrypts EAP transactions with a TLS tunnel. While similar to PEAP, it differs significantly as EAP-FAST tunnel establishment is based on strong secrets unique to users. These secrets are called Protected Access Credentials (PACs), which CiscoSecure ACS generates using a master key known only to CiscoSecure ACS. Because handshakes based upon shared secrets are intrinsically faster than handshakes based upon PKI, EAP-FAST is the significantly faster of the two solutions that provide encrypted EAP transactions. No certificate management is required to implement EAP-FAST.

Use "EAP-FAST" to configure EAP-FAST as an authentication protocol, select "Open," "WPA," or "Network EAP" as an association mode.



To configure using EAP-FAST

1 Set **8021x Security** as "EAP-FAST," then choose one of the following:

- Set **Association** to "Open."
- Set **Association** to "WPA."
- Set **Association** to "WPA2."
- Set **Association** to "Network EAP" and **Encryption** to either "WEP" or "CKIP."

2 Enter your unique **Username** to use this protocol.

3 Select **Prompt for password** to have the user enter this password each time to access the protocol, or leave **Use following password** as selected and enter your unique password to use the protocol without entering a password each time you use your CK60.

4 Tap **Additional Settings** to set options for PAC management and assign an anonymous EAP-FAST name.

To configure additional EAP-FAST settings

1 Tap **PAC Manager** to view the PAC files currently installed on your CK60. Tap **ok** to return to the Additional Settings screen.

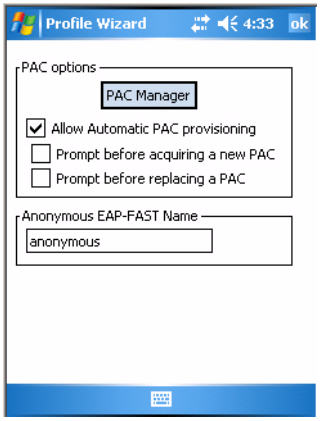
2 If you already have a PAC on your CK60, clear (uncheck) **Allow Automatic PAC provisioning** to avoid receiving more PACs from the server.

3 If **Allow Automatic PAC provisioning** is checked, you can check:

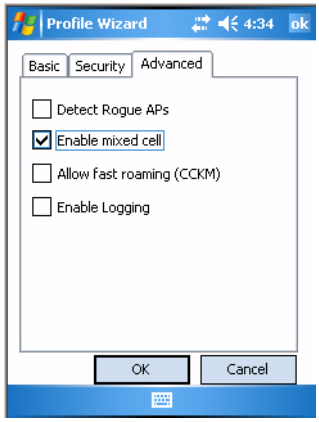
- **Prompt before acquiring a new PAC** for notification of any incoming PACs.
- **Prompt before replacing a PAC** for notification whether to replace a current PAC with an incoming PAC.

4 Enter the **Anonymous EAP-FAST Name** as assigned for public usage. This outer identity protects your login name or identity.

5 Click **ok** to return to the Security page.



To set advanced security features



- Check any of these options, then click **OK**.

Detect Rogue APs	Wireless NICs and APs associate based on the SSID configured for the NIC. Given an SSID, the BSSID with the strongest signal is often chosen for association. After association, 802.1x authentication may occur and during authentication credentials to uniquely identify a user - these are passed between the NIC and the AP. Base 802.1x technology does not protect the network from "rogue APs." These can mimic a legitimate AP to authentication protocols and user credentials. This provides illegal users ways to mimic legitimate users and steal network resources and compromise security. Check this box to detect and report client behavior suspected of being rogue APs. Once a rouge AP is detected, your CK60 no longer associates with that AP until you perform a clean boot. Clear this box to solve AP connection problems that result when an AP gets put on the rogue list due to inadvertent failed authentications, not because it is a real rogue.
Enable mixed cell	Mixed cell is a profile-dependent setting. If enabled, using WEP, you can connect to access points that allow the optional use of encryption.
Allow fast roaming (CCKM)	When using a wireless LAN that uses Cisco Access Points, a LEAP-enabled client device can roam from one access point to another without involving the authentication (RADIUS) server. If enabled, an access point configured to provide Wireless Domain Services (WDS) takes the place of the RADIUS server (caching credentials of an initial authentication with the RADIUS server) and authenticates the client without perceptible delay in voice or other time-sensitive applications.
Enable Logging	Check this box to log what activity occurs for this profile.

Configuring Microsoft Security

The default security setting is Funk. If you want to use Microsoft security, you need to select it as your security choice.

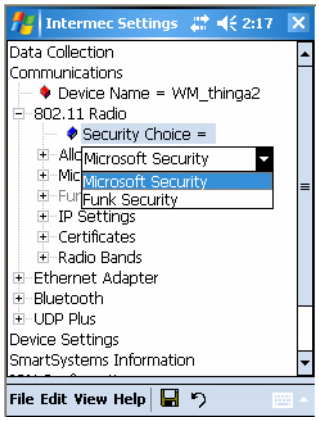
To enable Microsoft Security

1 Select **Start** > **Settings** > the **System** tab > the **Intermec Settings** icon.

2 Tap (+) to expand **Communications** > **802.11 Radio** > **Security Choice**.

3 Select "Microsoft Security" from the drop-down list.

4 Press **Enter**.



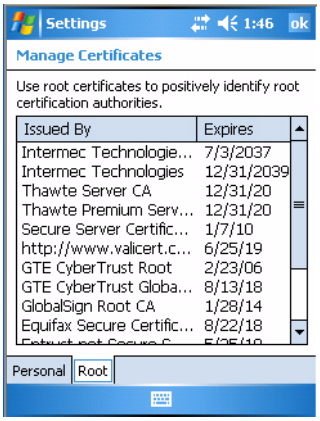
5 Tap **Yes** or press **Esc** to clear the alert box, save your settings, then perform a clean boot on the CK60. See "Resetting Your Computer" on page 3 for more information.

Loading Certificates

If you choose to use Transport Layer Security (TLS) with WPA or 802.1x security, you need to have a unique client certificate on the CK60 and a trusted root certificate authority (CA) certificate. If you choose to use PEAP, you need to load a root CA certificate. You can use a third-party CA to issue unique client certificates and a root certificate.

To load certificates

- If your CA is on your WLAN, select **Start** > **Settings** > the **System** tab > the **Certificates** icon > the **Root** tab to view certificate details.
- To remove a certificate, press and hold a certificate, then select **Delete**.



Wireless Network

Your wireless adapter (network interface card) connects to wireless networks of two types: infrastructure networks and ad-hoc networks.

- Infrastructure networks get you onto your corporate network and the internet. Using the 802.11b/g infrastructure mode, the CK60 establishes a wireless connection to an access point, linking you to the rest of the network.
- Ad-hoc networks are private networks shared between two or more clients, even with no access point.

Each wireless network is assigned a name (or Service Set Identifier - SSID) to allow multiple networks to exist in the same area without infringement.

Intermec recommends using security measures with wireless networks to prevent unauthorized access to your network and to ensure your privacy of transmitted data. Authentication (cryptographically protected) by both the network and the user, transmitted data, and encryption are required elements for secure networks. Schemes are available to implement the features.

Encryption

AES (Advanced Encryption Standard)	A block cipher, a type of symmetric key cipher that uses groups of bits of a fixed length - called blocks. A symmetric key cipher is a cipher using the same key for both encryption and decryption. As implemented for wireless, this is also known as CCMP, which implements AES as TKIP and WEP are implementations of RC4.
CKIP (Cisco Key Integrity Protocol)	This is Cisco's version of the TKIP protocol, compatible with Cisco Aironet products.
TKIP (Temporal Key Integrity Protocol)	This protocol is part of the IEEE 802.11i encryption standard for wireless LANs., which provides per-packet key mixing, a message integrity check and a re-keying mechanism, thus overcoming most of the weak points of WEP. This encryption is more difficult to crack than the standard WEP. Weak points of WEP include: No Initiation Vector (IV) reuse protection, weak keys, no protection against message replay, no detection of message tampering, and no key updates.
WEP (Wired Equivalent Privacy) **encryption**	With preconfigured WEP, both the client CK60 and access point are assigned the same key, which can encrypt all data between the two devices. WEP keys also authenticate the CK60 to the access point - unless the CK60 can prove it knows the WEP key, it is not allowed onto the network. WEP keys are only needed if they are expected by your clients. There are two types available: 64-bit (5-character strings, 12345) (default) and 128-bit (13-character strings, 1234567890123). Enter these as either ASCII (12345) or Hex (0x3132333435).

Key Management Protocols

WPA (Wi-Fi Protected Access)	This is an enhanced version of WEP that does not rely on a static, shared key. It encompasses a number of security enhancements over WEP, including improved data encryption via TKIP and 802.11b/g authentication with EAP. WiFi Alliance security standard is designed to work with existing 802.11 products and to offer forward compatibility with 802.11i.
WPA2 (Wi-Fi Protected Access)	Second generation of WPA security. Like WPA, WPA2 provides enterprise and home Wi-Fi users with a high level of assurance that their data remains protected and that only authorized users can access their wireless networks. WPA2 is based on the final IEEE 802.11i amendment to the 802.11 standard ratified in June 2004. WPA2 uses the Advanced Encryption Standard (AES) for data encryption and is eligible for FIPS (Federal Information Processing Standards) 140-2 compliance.

Authentication

EAP (Extensible Authentication Protocol)	802.11b/g uses this protocol to perform authentication. This is not necessarily an authentication mechanism, but is a common framework for transporting actual authentication protocols. Intermec provides a number of EAP protocols for you to choose the best for your network.
EAP-FAST (Flexible Authentication via Secure Tunneling)	A publicly accessible IEEE 802.1X EAP type developed by Cisco Systems. It is available as an IETF informational draft. An 802.1X EAP type that does not require digital certificates, supports a variety of user and password database types, supports password expiration and change, and is flexible, easy to deploy, and easy to manage.
LEAP (Lightweight Extensible Authentication Protocol)	Also known as Cisco-Wireless EAP, provides username/password based authentication between a wireless client and a RADIUS server. In the 802.1x framework, traffic cannot pass through a wireless network access point until it successfully authenticates itself.
EAP-PEAP (Protected Extensible Authentication Protocol)	Performs secure authentication against Windows domains and directory services. It is comparable to EAP-TTLS both in its method of operation and its security, though not as flexible. This does not support the range of inside-the-tunnel authentication methods supported by EAP-TTLS. Microsoft and Cisco both support this protocol.
EAP-TLS (Transport Layer Security)	Based on the TLS (Transport Layer Security) protocol widely used to secure web sites. This requires both the user and authentication server have certificates for mutual authentication. While cryptically strong, this requires corporations that deploy this to maintain a certificate infrastructure for all their users.
EAP-TTLS (Tunneled Transport Layer Security)	This protocol provides authentication like EAP-TLS (see page 152) but does not require certificates for every user. Instead, authentication servers are issued certificates. User authentication is done using a password or other credentials that are transported in a securely encrypted "tunnel" established using server certificates. EAP-TTLS works by creating a secure, encrypted tunnel through which you present your credentials to the authentication server. Thus, inside EAP-TTLS there is another *inner authentication protocol* that you must configure via Additional TTLS Settings.

SmartSystems™ Foundation

Use the SmartSystems Foundation (www.intermec.com/SmartSystems) to configure and manage your network. You can also contact your Intermec representative for support.

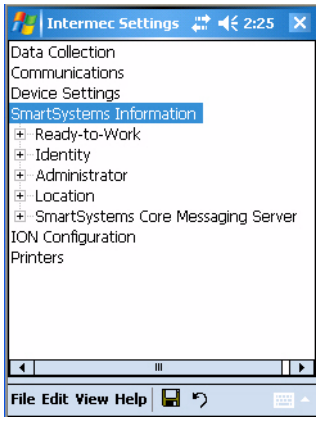
This tool, available as a free download from Intermec, includes a management console that provides a default method to configure and manage Intermec devices "out-of-the-box," without the purchase of additional software licenses. This is for anyone who must configure and deploy multiple devices or manage multiple licenses.

Use the Intermec Settings applet to do device configuration settings within the SmartSystems Foundation. Information about the Intermec Settings applet is in the *Intermec Computer Command Reference Manual* (P/N 073529) available online at www.intermec.com.

Information about the SmartSystems Foundation is available as an online help within the SmartSystems Console application. Select **SmartSystems** > **Help** in the console to access the manual.

To view SmartSystems information

- Tap **Start** > **Settings** > the **System** tab > the **Intermec Settings** icon, then tap to expand the **SmartSystems Information** option.



Index

Numerics
1D area imager reading distances, 5
2D area imager reading distances, 10
802.1x authentication
  Funk, 145
802.1x security
  troubleshooting, 109

A
AB11 battery, 11
Accounts
  via Messaging, 67
ActiveSync
  ActiveSync Help, 47
  adding programs, 43
  adding programs to Start menu, 45
  Folder behavior connected to email server, 66
  installing applications, 82
  Internet Explorer Mobile
    favorite links, 74
    mobile favorites, 75
    Mobile Favorites folder, 74
  URL, 45
  Windows Mobile, 45
Adding programs
  ActiveSync, 43
  to the Start menu, 44
    via ActiveSync, 45
    via File Explorer, 45
  Windows Mobile, 42
Address assigned to CK60, 100
Adjusting settings
  Windows Mobile, 42
Advanced Encryption Standard, 161
AES (Advanced Encryption Standard), 161
AllDay events
  Calendar, 49
    creating, 51
Alphanumeric scan codes, 96
Ambient lighting, 11
Applets
  Bluetooth, 98, 99
  Bluetooth audio, 121
  intemec settings
    beeper volume, 15, 163
  intermec settings
    beeper volume, 21
    Bluetooth, 124
    funk security, 142
    SF51 scanner information, 100
    smartsystems, 15, 163
    vibrate, 23
  power, 14
  sounds & notifications
    vibrator, 24
  wireless printing, 118
Appointments
  Calendar
    adding a note, 52
    assigning to a category, 53
    changing, 50
    creating, 50
    deleting, 55
    finding, 55
    making recurring, 53
    setting a reminder, 51
    viewing, 50
  via Calendar, 47
Audio files
  Windows Media Player, 74
AutoIP, 130
Avalanche, 83

B
Backlight applet
  ambient light sensor, 11
  keypad, 18
  keypad backlight, 18
Bar codes
  troubleshooting, 111
Battery
  ambient lighting, 11
  status, 11
Beeper
  enabling via Sounds & Notifications applet, 14
Block recognizer
  Windows Mobile input panel, 35
Bluetooth
  Bluetooth Audio applet, 121
  connecting with remote devices, 124
  discovering headsets, 122
  intermec settings, 124
  Wireless Printing applet, 118
Bluetooth applet, 100
  address assigned to CK60, 100
  devices, 99
  enabling for SF51 scanner, 98
Bluetooth Audio applet
  Bluetooth, 121
Browsing the Internet
  Internet Explorer Mobile, 77

C
Calendar
all day events, 49
creating, 51
appointments
adding a note, 52
assigning to a category, 53
changing, 50
creating, 50
deleting, 55
finding, 55
making recurring, 53
setting a reminder, 51
viewing, 50
categories, 48
meetings
sending a request, 54
options
changing, 56
Pocket Outlook, 47
recurrence pattern, 49
Start menu icon, 32
synchronizing, 48
Capacitor
internal super, 12
Capturing thoughts and ideas
via Notes, 63
Categories
calendar, 48
contacts
assigning to, 59
Cisco Key Integrity Protocol, 161
Cisco Lightweight EAP, 156
CKIP (Cisco Key Integrity Protocol), 161
Clean boot process, 4
Cleaning the scanner window and CK60 screen, 112
Communications
Ethernet, 139
CompactFlash cards
installing applications, 83
Configuration parameters, 101
Configuring security, 141
Configuring the CK60
troubleshooting, 109
Configuring the SF51 scanner, 98
Connecting to
an ISP, 132
work, 134
Connecting to a mail server
via Messaging, 66
Connections
ending, 138
to an ISP, 132
via modem, 132
to work, 134
via VPN server, 137
via modem
to an ISP, 132
via VPN server
to work, 137
Conserving battery power, 11
Contacts
adding a note, 59
assigning to a category, 59
changing, 58
changing options, 61
copying, 60
creating, 57, 58
deleting, 61
finding, 60
Pocket Outlook, 56
sending a message, 60
Start menu icon, 32
synchronizing, 57
viewing, 58
Converting writing to text, 37
Converting writing to text on the screen, 37
Copying
contacts, 60
Creating
a modem connection
to an ISP, 132
a VPN server connection
to work, 137
contacts via Contacts, 57
document via Word Mobile, 68
drawing via Notes, 39
note via Notes, 63
task via Tasks, 62
workbook via Excel Mobile, 71

D
Data transmission
troubleshooting, 111
Detect rogue APs, 159
DHCP, 130
DRAM
low battery shutdown, 12

E
EAP (Extensible Authentication Protocol), 162
EAP-FAST, 162
profile security information, 157
WEP encryption, 157
EAP-TLS, 152
EAP-Tunneled TLS, 153

EasySet
creating an SF51 connection label, 99
scan bar code labels, 101
Edition information, 3
Ending a connection, 138
Ethernet
enabling via iConnect, 139
iConnect, 139
Excel Mobile
about, 71
creating a workbook, 71
tips, 72
Extensible Authentication Protocol, 162

F

FAST (Flexible Authentication via Secure Tunneling), 162
Favorite links
Internet Explorer Mobile, 74
File Explorer
adding programs to Start menu, 45
removing programs, 45
Windows Mobile, 41
Flash File Store
packaging an application, 81
Flexible Authentication via Secure Tunneling (FAST), 162
Folder behavior connected to email server
ActiveSync, 66
IMAP4, 66
POP3, 66
Funk security, 142
802.1x, 145
selecting a profile, 142
static WEP, 146
WPA, 142

G

Getting connected
ISP, 131
to an ISP, 132
creating a modem connection, 132
to work, 134
creating a VPN server connection, 137
Windows Mobile, 131
Green shift plane, 96

H

Headsets
connecting, 122
discovering, 122

I

iConnect, 139
disabling network communications, 140
enabling Ethernet, 139
network support, 139
ping test, 141
IDL
Bluetooth Resource Kit, 119
IDLs
Bluetooth, 114
data collection, 15
smartsystems, 107
URL, 20
Imager
configuration parameters, 101
Imager settings
SF51 scanner, 98
IMAP4
Folder behavior connected to email server, 66
Input panel
block recognizer, 35
keyboard, 34
letter recognizer, 36
selecting typed text, 36
transcriber, 36
Windows Mobile, 32
Word Mobile, 69
word suggestions, 34
Installing
secure digital cards, 19
Installing applications
Avalanche, 83
SmartSystems, 84
using a storage card, 83
using Secure Digital cards, 83
with ActiveSync, 82
Intermec Developer Library, 15
Intermec settings
beeper volume, 163
Intermec Settings applet
Bluetooth, 124
enable speaker, 21
Funk security, 142
set vibrator, 23
viewing SF51 information, 100
Intermec settings applet
smartsystems, 15, 163
Internal scanners
reading distances
EA10, 6
EA11, 7
EL10, 8
EL11, 8
EV10, 9
Internet explorer
Windows Mobile, 3

Internet Explorer Mobile
about, 74
browsing the Internet, 77
favorite links, 74
getting connected, 131
mobile favorites, 75
Mobile Favorites folder, 74
viewing mobile favorites and channels, 77
ISP
connecting to via Windows Mobile, 132
creating
a modem connection, 132
Internet Explorer Mobile, 74
Windows Mobile, 131

K

Keeping a todo list
via Tasks, 61
Keyboard, 18
Windows Mobile input panel, 34
Keypad
backlight applet, 18
enabling backlight via backlight applet, 18
implementation, 95
registry entries, 96
reprogramming, 95
scan codes, 96

L

LEAP security
fast roaming (CCKM), 159
Microsoft, 156
Letter recognizer
Windows Mobile input panel, 36
Loading certificates, 160
Microsoft, 155

M

Managing email messages and folders
via Messaging, 65
Meetings
Calendar
sending a request, 54
via Calendar, 47
Messages
sending to
contacts, 60
via Messaging
composing/sending, 67
Messaging
accounts, 67
composing/sending messages, 67
connecting to a mail server, 66
getting connected, 131
managing email messages and folders, 65
Pocket Outlook, 64
Start menu icon, 32
synchronizing email messages, 65
using My Text, 40
Microsoft security, 142
allow fast roaming (CCKM), 159
detect rogue APs, 159
enable mixed cell, 159
LEAP, 156
PEAP, 150
TLS, 152
TTLS, 153
Mixed cell
enable via Microsoft security, 159
Mobile Favorites
Internet Explorer Mobile, 75
Mobile Favorites folder
Internet Explorer Mobile, 74
Modems
creating a connection
to an ISP, 132
MP3 files
Windows Media Player, 74

N

Network adapters, 139
Notes
adding to
appointments, 52
contacts, 59
creating a note, 63
drawing on the screen, 39
creating a drawing, 39
selecting a drawing, 39
Pocket Outlook, 63
recording a message, 40
synchronizing notes, 64
writing on the screen, 36
alternate writing, 38
converting writing to text, 37
selecting the writing, 37
tips for good recognition, 38
Numeric scan codes, 96

O

Object Store
packaging an application, 80
Operating the CK60
troubleshooting, 108
Orange shift plane, 96

P
Packaging an application
  Flash File Store, 81
  Object Store, 80
  Persistent Storage Manager, 80
  Secure Digital storage cards, 81
Patent information, vii
PEAP security
  Microsoft, 150
Ping test
  iConnect, 141
Pocket Internet Explorer
  Start menu icon, 32
Pocket Outlook, 47
  Calendar, 47
POP3
  Folder behavior connected to email server, 66
Power
  applet
    battery status, 11
Power applet
  battery status, 14
PowerPoint Mobile
  Windows Mobile, 72
Programs, adding or removing
  Windows Mobile, 42
Protected EAP, 150
PSM
  packaging an application, 80

R
Reader commands, 101
Reading distances
  EA10, 6
  EA11, 7
  EL10, 8
  EL11, 8
  EV10, 9
Record button
  recording a message, 40
Recording
  via Notes, 40
Recurrence pattern
  Calendar, 49
Registry entries, 96
Registry settings
  AutoCfg, 131
  AutoInterval, 131
  AutoIP/DHCP, 130
  DhcpRetryDialogue, 131
Removing programs
  Windows Mobile, 42, 45
Reprogramming the keypad, 95
Reset methods
  clean boot, 4
  preferred, 3
  secondary, 4
Resource Kits
  Bluetooth, 119
Resource kits
  Bluetooth, 114
  data collection, 15
  smartsystems, 107
  URL, 20
Roaming
  Microsoft security, 159

S
Scan codes
  keypad
    alphanumeric, 96
    numeric, 96
Scanning bar codes
  troubleshooting, 111
Scheduling appointments and meetings
  via Calendar, 47
Secure Digital cards
  installing, 19
  installing applications, 83
  packaging an application, 81
  using, 19
Security
  choosing between Funk and Microsoft, 142
  configuring, 141
  loading certificates, 160
  wireless network, 161
Selecting
  drawing via Notes, 39
Selecting the writing on the screen, 37
Sending and receiving messages
  via Messaging, 64
Serial port transmission
  troubleshooting, 111
Settings applets
  backlight, 11, 18
  Bluetooth, 98, 99
  Bluetooth audio, 121
  intermec settings, 21, 23
    Bluetooth, 124
    funk security, 142
    SF51 scanner information, 100
  power, 14
    battery status, 11
  sounds & notifications, 14, 24
  wireless printing, 118
Setup Assistant
  configuring with, 92

SF51 scanner
configuring, 98
creating a connection label, 99
enabling Bluetooth
Bluetooth
enabling for SF51 scanner, 98
imager settings, 98
viewing information from CK60 computer, 100
Shift planes, 96
SmartSystems, 15, 84, 163
Sounds & Notifications applet
enable beeper, 14
set vibrator, 24
Speakers, 20
enabling via intermec settings applet, 21
Start Menu
adding programs, 44
via ActiveSync, 45
via File Explorer, 45
Static WEP security
Funk, 146
Status icons
Windows Mobile, 31
Stylus, 22
Synchronize system time, 93
Synchronizing
Calendar, 48
contacts, 57
email messages, 65
favorite links, 74
mobile favorites, 75
notes, 64
Tasks, 63
Word Mobile, 70
System software updates, 104
System time, 93

T

Tasks
creating a task, 62
Pocket Outlook, 61
Start menu icon, 32
synchronizing, 63
TCP/IP client
DHCP server, 131
Temporal Key Integrity Protocol, 161
Text messages
Windows Mobile, 40
Time server, 93
Tips for working
Excel Mobile, 72
TKIP (Temporal Key Integrity Protocol), 161
TLS security
Microsoft, 152
Today screen
Windows Mobile, 31
Tools CD
CAB files, 82
Tracking people
via Contacts, 56
Transcriber
Windows Mobile input panel, 36
Troubleshooting, 108
802.1x security, 109
bar code scanning, 111
CK60 configuration, 109
CK60 operation, 108
serial port transmission, 111
wireless connectivity, 110
TTLS security
Microsoft, 153
Typing mode
Word Mobile, 69
Typing on the screen
Word Mobile, 69

U

Updating
bootloader, 82
Updating the system software, 104
Upgrading the operating system, 104
URLs
ActiveSync, 45
Microsoft support, 30
Windows Mobile, 30
Windows Mobile support, 30

V

Vibrator
enabling via intermec settings applet, 23
enabling via sounds & notifications applet, 24
Video files
Windows Media Player, 74
Viewing mobile favorites and channels
Internet Explorer Mobile, 77
VPN server
creating a connection
to work, 137

W

WAP pages, 74
connecting to an ISP, 132
Wavelink Avalanche, 83
Web pages, 74
connecting to an ISP, 132
WEP (Wired Equivalent Privacy) encryption, 161
WEP encryption
EAP-FAST security method, 157
Wi-Fi Protected Access, 142, 162

Windows Media files
Windows Media Player, 74
Windows Media Player
Windows Mobile, 74
Windows Media Player Mobile
Start menu icon, 32
Windows Mobile
ActiveSync, 45
basic skills, 30
Calendar, 47
command bar, 32
Contacts, 56
edition information, 3
Excel Mobile, 71
getting connected, 131
Messaging, 64
navigation bar, 32
Notes, 63
notifications, 33
popup menus, 32
PowerPoint Mobile, 72
programs, 31
status icons, 31
support URLs, 30
Tasks, 61
Today screen, 31
where to find information, 30
Windows Media Player, 74
Word Mobile, 68
writing on the screen, 36
Wired Equivalent Privacy, 146, 161
Wireless 802.11b
iConnect, 139
Wireless connectivity
troublshooting, 110
Wireless network
security, 161
Wireless Printing applet, 118
Word Mobile
about, 68
creating a document, 68
synchronizing, 70
typing mode, 69
writing mode, 70
Work
creating
a VPN server connection, 137
getting connected, 134
WPA (Wi-Fi Protected Access), 162
WPA security
Funk, 142
WPA2 (Wi-Fi Protected Access), 162
Writing mode
Word Mobile, 70
Writing on the screen
Word Mobile, 70

Intermec

Worldwide Headquarters
6001 36th Avenue West
Everett, Washington 98203
U.S.A.

tel 425.348.2600

fax 425.355.9551

www.intermec.com

CK60 Mobile Computer with Windows Mobile User's Manual

P/N 935-000-002